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AIR CONDITIONING & REFRIGERATION News

THE NEWSPAPER OF THE INDUSTRY

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INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE F. TAUBENECK

Stories of the Week
Prayer of the Week
Verse of the Week
Gag of the Week
Pray for a Scorcher
Philosophy of the Week
Practical Advice
Note to Women Readers
Amen, Brother

Stories of the Week

Super-duper sales manager for a dog food company staged a pep rally.

"Now boys . . . let's hear . . . who has the best doggone dog food in the world?"

"WE HAVE!" salesmen and distributors roared in unison.

"Who produces the best-looking package of dog food?"

"WE DO," the decibels rose.

"If we have the best dog food, the best-looking package, and the least expensive product—how come we are sixth down the list of total sales in our industry?"

Piped up an intrepid retailer:

"The dogs just don't like it!"

In a British parliament debate a Laborite defended the socialistic medicine program.

"In Britain today we have more bonny babies than ever before. And why. . . ?"

Before he could answer his own rhetorical question, a heckler Toried:

"Private enterprise!"

End of debate.

Prayer of the Week

George Washington Carver, who achieved wonders with the humble peanut, loved to tell this prayer story. He asked his maker: "God, tell me the mystery of life."

No answer.

"God, tell me the mystery of the peanut."

"Now, that is more nearly your size, George, and I will reveal it to you." And so God did.—*Rotarian.*

Verse of the Week

"Oh! those blessed times of old
with their chivalry and state:
I love to read their chronicles,
which such brave deeds relate;
I love to sing their ancient
rhymes, to hear their legends
told . . .
But, Heaven be thanked! I
live not in those blessed times
of old."—CHARLOTTE BRONTE.

Gag of the Week

"If business gets any better," mused the new room cooler manufacturer, "I'll have to put up another warehouse."

Pray for a Scorcher

In times of drought, farming communities sometimes gather at the church, and pray for rain.

More recently they've been hiring rainmakers who "seed" clouds by airplane.

Inasmuch as professional weather-changers haven't, as yet, figured out how to produce a hot spell, perhaps the air conditioning industry should do some praying, too.

Along about this time last year the writer worried publicly about possible overproduction of packaged air conditioners.

Within a few days after that dis-

(Concluded on Page 13, Col. 2)

Problem In Psychology

'Self-Serve Meat Here to Stay,' But Many Shoppers Still Prefer Clerks, SMI Told

CLEVELAND — "Self-service meat is here to stay," but many women shoppers still prefer clerk service, operators were told at the 17th annual convention of the Super Market Institute here.

The problem is mostly "psychological in nature," believes Henry J. Eavey, head of a Richmond, Ind. chain bearing his name, who gave preliminary results of a survey to determine shoppers' preference.

"I am sure we can say today without fear of contradiction that the self-service method of selling meat has definitely arrived," Eavey said. "Almost all new or remodeled supermarkets today open with self-service meat. As of January, 1954, well over half (62%) of all SMI member supermarkets had complete self-service meat departments. On the surface our customers apparently like self-service, too—general experience has been that self-service does not retard meat sales and does obtain increases.

"But do we operators have any blind spots about self-service meats? What are the outstanding strengths and weaknesses of this method? Is there anything that a substantial number of customers dislike about it?

"From some survey work conducted by our own company some time ago, we got a 'pitch' that maybe some housewives were not as dazzled and 'sold to the hilt' on this new method of selling meats as we—the operators on the other side of the meat counter—thought they were.

"Therefore, when *Woman's Home Companion* approached

(Concluded on Page 4, Col. 1)

8 Ice Cream Firms Will Contest FTC 'Unfair' Complaint

WASHINGTON, D. C. — Eight major ice cream manufacturers and 55 of their subsidiaries have filed answers denying Federal Trade Commission charges of using unfair methods of competition—such as supplying refrigerated equipment at cost or no cost—in the sale of ice cream and related products.

The eight major respondents are National Dairy Products Corp., and The Borden Co., both of New York City; Arden Farms Co., and Carnation Co., both of Los Angeles; Beatrice Foods Co., Chicago; Fairmont Foods Co., Omaha, Neb.; Pet Milk Co., St. Louis; and Foremost Dairies, Inc., Jacksonville, Fla. With their subsidiaries, these firms are said to do 40% of the nation's ice cream business.

Hearings have been set by FTC as follows: National Dairy Products Corp., New York City, June 8; The Borden Co., New York City, June 9; and Carnation Co. and Arden Farms Co., Los Angeles, June 28.

The complaints involve inducements allegedly made to retail dealers in order to divert the business of these dealers from competing ice cream manufacturers. Among other things, the complaints charge that these inducements have been in the form of supplying ice cream cabinets, making loans, and performing other services for retail dealers. Accord-

(Concluded on Back Page, Col. 2)

Tecumseh To Up Capacity with Plant In Illinois

New Production Facility At Danville Expected To Start Producing Jan. 1

TECUMSEH, Mich. — Tecumseh Products Co. will start construction July 1 on a new plant in Danville, Ill., that is being built and tooled as a second source of supply on some of its existing models of condensing units, it has been announced in a joint statement by J. E. Layton, president of Tecumseh, and Frank R. Smith, director of sales for the refrigeration division.

"The new plant is being equipped and tooled in order that we may be flexible for the manufacture of newly developed compressors, which show every indication of having the possibility of broadening the future of the refrigeration industry with lower costs," said the Tecumseh statement.

It was also pointed out that with the completion of the new manufacturing unit at Danville the firm will have three manufacturing operations, plus the Acklin Stamping Div., thereby developing flexibility in the arrangement of production facilities for the best possible results in terms of costs

(Concluded on Page 33, Col. 3)

Frigidaire Dealers Get $23.6 Million Sales In Week

DAYTON—Frigidaire dealers in the third week in May had their second biggest single week in history with retail sales of over $23,600,000 resulting from a concentrated sales drive, Mason Roberts, General Motors vice president and Frigidaire general manager, has announced.

More than $9,250,000 worth of products were sold in a single day, May 21, climaxing the week. Included were sales of major appliances, air conditioning units, and commercial refrigeration products.

Explaining that the intensive drive was aimed at "sounding the depth of today's market," Roberts was optimistic.

"The results indicate broad pub-

(Concluded on Page 33, Col. 5)

Manitowoc Will Show 22-Ft. Freezer at Mart

MANITOWOC, Wis.—Anticipating a steady increase in demand for large-capacity upright freezers for convenient home use, Manitowoc Equipment Works will introduce a new 22-cu. ft. model at the Chicago Summer Market.

It will be available for immediate shipment.

The freezer, which has food capacity of 770 lbs., requires only 30 by 36 in. of floor space, the company emphasized.

"The family with large freezer storage needs can place the Manitowoc 22 in a limited area, either in kitchen or utility room," it was stated. "Height of the unit is only 67¾ in., making all the storage space easily accessible.

"The new model 22 combines the utility of a large capacity freezer with good-looking, streamlined design that is keyed to the modern kitchen."

Exterior is hard-gloss enamel. Stylized nameplate, chrome-plated brass escutcheon, and single chrome strip accent the simple lines. "Frost-Mint" color on inner

(Concluded on Page 33, Col. 3)

Meat, Produce Depts. To Be Discussed by NARGUS June 13-17

CHICAGO—Panel discussions on profitable meat department management and planning profitable produce operations will be feature attractions at the 55th annual convention of the National Association of Retail Grocers to be held in the National Guard Armory, Washington, D. C., June 13-17.

The convention, which is expected to attract 15,000 retail food merchants and their suppliers, will also feature a mammoth exhibition of food, grocery products, and equipment. A number of makers of commercial refrigeration equipment will be included.

Other panel discussions scheduled will cover meeting today's competition and profitable promotions. Slated to address the convention are Ezra Taft Benson, secretary of agriculture; Congressman Wright Patman of Texas, co-author of the Robinson-Patman Act; and Dr. Emerson P. Schmidt, director of economic research,

(Concluded on Back Page, Col. 4)

Consumer Instalment Credit Up Slightly During April

WASHINGTON, D. C. — Consumer instalment credit rose slightly in April for the first time this year, indicating that the decline in credit buying "apparently has ended," the Federal Reserve Board reported recently.

That type of credit increased $9 million in April after dropping in January, February, and March for a total of $900 million.

One FRB official termed the upturn "good news to merchants whose sales have suffered because

(Concluded on Page 33, Col. 3)

Research Village with 22 Conditioned Homes Is Opened In Texas

WASHINGTON, D. C. — The world's first completely air conditioned village took its place on the map of Texas June 2 as a private industry research project to determine the effect of manufactured weather on the budget, health, and home life of American families.

The research village, located in the northwestern suburbs of Austin, consists of 22 new homes of varying design and structure, each equipped with a different type of year-round air conditioning and heating system.

The homes will be studied by research scientists for an entire year, under actual living conditions, in an effort to find the answers to the many technical, medical, and psychological problems involved in the use of controlled weather in medium and low-priced housing.

Construction crews put the final touches to the new homes on June 1, and soon afterward 22 selected families moved into the research village.

Each family bought its home for approximately $12,000, plus land costs, under special agreements providing for their cooperation in

(Concluded on Page 31, Col. 1)

2 Cities Demand Special Room Unit Wiring

Grand Rapids Lets Anyone Install Smaller Units

GRAND RAPIDS, Mich. — Although a permit still must be obtained for installation of ½ or ¾ hp. window air conditioners here, this city no longer requires that window air conditioners up to and including ¾-hp. units be installed by a person holding a refrigeration license, according to James S. Porter, city refrigeration inspector.

However, all other installations must be made by a licensed refrigeration contractor, person, etc., he pointed out.

Porter said the action was taken because the main problems regarding installation of window air conditioners are in the electrical

(Concluded on Back Page, Col. 1)

St. Petersburg Requires Separate Circuit

ST. PETERSBURG, Fla. — A city ordinance requires that every air conditioner installed in a home must have a separate 110-volt electrical circuit, it was pointed out recently by Charles Metcalf, chief electrical inspector.

Metcalf said the ordinance was passed by the city because "we were duty bound to give our residents the best protection we could from fire hazards.

"Overloading electrical circuits will cause fires and we are sure that plugging an air conditioner into an existing electrical circuit with other appliances or lights will overload the circuit."

The average air conditioner,

(Concluded on Back Page, Col. 2)

IN THIS ISSUE

Picture Story of How To Sell a Household Fan 8
Medical Research Shows No Bad Effects from Cooling..... 10
Air-to-Air System on Turntable Heats, Cools 12
Detroit Commercial Sales Statistics for 1953 14
Installing, Servicing Self-Service Display Cases 19
Pictures of New Products at Super Market Institute Show 20
Control Systems for Air Conditioning 26
Merchandising Plan for Residential Cooling 30
What's New 22
Slants on Service 25
Patents 34
Refrigeration Problems—Spring Inspection 35

XUM

WHY WAIT HOURS?

When you have "freeze-ups" (or other moisture troubles) why not stop them right away? Why wait for the moisture to be picked up?

Thawzone goes right to the moisture. No delay. It travels through the refrigerating unit right away. You get action quickly, wherever the moisture may be.

Remember, the drier that *destroys* moisture is Thawzone. The water can't come back. And no clogging with oil or pressure drop with Thawzone. Costs only about 8¢ per lb. of refrigerant treated.

For all "Freon" or methyl units. Your wholesaler has . . .

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SALESMEN: MOST TERRITORIES OPEN

Little Rock Official Seeks Registration of Cooling Water Users

LITTLE ROCK, Ark. — Alderman William C. Hood, Jr., outspoken opponent of a plan to build a $10,654,000 reservoir on Big Maumelle River, recently filed a proposed ordinance that would require the owners of some types of air conditioning systems to register with the city engineer.

Alderman Hood said the bill, prepared by the city attorney's office, applies to all equipment used for air conditioning, cooling, and refrigeration, whether owned by individuals, firms, or corporations.

He added that the bill does not differentiate between large equipment that uses water as a coolant and small home units.

But Alderman Hood said that he intended the bill to apply only to the water-using equipment and specifically to those units not equipped with some method of recapturing and reusing the water.

"Owners of units which do not use water or which have a reclaiming device would not be required to register," Hood asserted.

He went on to say that millions of gallons of water were wasted every day by air conditioning units which use the water once and then spill it into drain pipes.

"The proposed ordinance would require owners of air conditioning, cooling, and refrigerating equipment to register by July 1 on forms to be supplied by the city engineer," he continued. "Failure to register would bring a fine of not more than $25."

The bill includes an introductory phrase stating that Little Rock "is at present experiencing a shortage of water from existing sources."

Commercial Sales By Kelvinator Increase

DETROIT—Sales of Kelvinator commercial condensing units by its wholesale outlets for the first seven months of the current fiscal year are nearly 50% ahead of last year, H. C. Patterson, commercial sales manager, has reported.

He said factory shipments in April were the largest for any month since June, 1950. Other commercial products also have shown increases over last year, Patterson said.

"A plan announced early this year whereby distribution of commercial condensing units was broadened to include independent refrigeration equipment parts and supply wholesalers also was an important factor. In the past, such units had been sold exclusively by Kelvinator's appliance distributors and zone offices.

"Under the program, the wholesaler becomes a supply depot for Kelvinator commercial units."

Inventor Tells FTC Evis Water Conditioner Creates Benefits Through 'Secret' Process

SAN FRANCISCO — Testifying at the San Francisco hearings on the Federal Trade Commission complaint issued against the manufacturer of the Evis water conditioner, Arthur Wells, said to be the inventor of the device, declared that the means by which it makes water "behave" differently is a "secret."

According to Wells, something that is done to the cast iron pipe fitting that constitutes the Ev conditioner before and after it is cast causes water to "behave" differently and thus accomplishes the removal of scale and scum and other beneficial results, claims which the FTC contends are false.

Wells said that he was a self-taught engineer, without a college degree, and was chief engineer and vice president of the Evis Mfg. Co.

When questioned by the FTC, Wells declared that chemical analysis of the metal used in the Evis water conditioner would not reveal any differences in it from a piece of cast iron, nor would spectro-analysis.

However, he said that the change in the water that passed through the device was physical, not chemical, and that it has something to do with the crystalline structure of the water, rather than its chemistry.

Among the witnesses called by the FTC attorneys was Hugo de Bussieres of Oakland, Calif., a chemical engineer, who said he had made some tests in 1952 at the invitation of the Better Business Bureau. He said that he had checked the device with microscope, spectroscope, and Geiger counter, and couldn't find where it differed from ordinary cast iron.

De Bussieres also said that he had subjected water that had passed through the conditioner to a number of tests, and that "based on my knowledge of theoretical chemistry, we don't believe there is anything in the device that would make any change in the water."

Under cross-examination by James Michael, attorney for Evis, de Bussieres said he had also made some tests for Evis. However, he was not questioned further about these tests at this hearing.

After some further testimony on the FTC side of the case, the company will present its case at a later date.

Cooling Goes Into Both Homes and Greenhouses On Some Texas Farms

HOUSTON, Texas — More and more air conditioning equipment for both homes and greenhouses is being purchased by farmers and ranchers in this area, according to county agricultural and home demonstration agents.

They reported that interest in both room air conditioners and year-round units for the home is mounting steadily.

Mrs. Beatrice Rubenstein, a home demonstration agent in Brazoria County, said there are several hundred rural dwellers in that county who have at least one-room units. And, she added, an ever-growing number are installing central air conditioning systems.

Agents in Liberty and Harris counties made similar reports.

More farm greenhouses, too, are being air conditioned. Air conditioning has made it possible for one couple, Mr. and Mrs. A. J. Preobstle, to grow orchids. Their home near Brazoria also is air conditioned.

As a result of experiments with tomato plants, 80° F. has been established as the optimum temperature for seed germination.

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our 100TH year
OF SUCCESSFUL MANUFACTURING EXPERIENCE

YOU'LL SELL MORE PROFITABLE JOBS

with the complete line of

Curtis

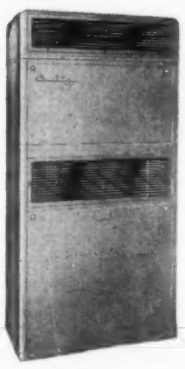
AIR CONDITIONING AND REFRIGERATION EQUIPMENT

Every product in the Curtis line is built with quality material and workmanship.

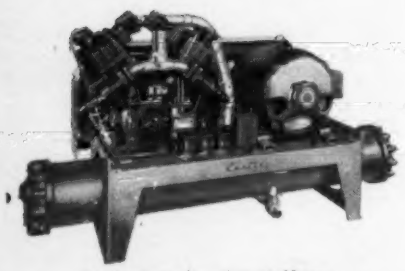
Curtis equipment is known around the world for its dependability and efficiency.

With the complete Curtis line, you can handle any installation for **Home, Office, Store,** or **Factory.**

NEW 1954 Curtis Room Air Conditioner — an attractive, efficient unit with a BIG market potential



Packaged Units— 2, 3, 5, 7½ and 10 tons Choice of open or semi-hermetic compressors . . . and 15 ton packaged Central type units



Condensing units—through 80 tons

Evaporative Condensers, Cooling Towers and Air Handling units to match

Residential cooling and heating units

765

You may qualify for a direct factory franchise. Write us, using your company letterhead.

National advertising in *Saturday Evening Post, Time, Newsweek* and *House and Home,* plus many other publications helps sell Curtis to your customers and prospects. Attractive new sales literature is available to help you sell in your local area.

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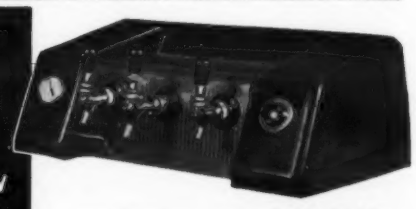
NEW . . . THE
UNI-BAR
LINE OF DIRECT DRAW DRAFT BEER SYSTEMS
by KOLD-DRAFT
NEWLY DESIGNED
COMPLETLY MODERN

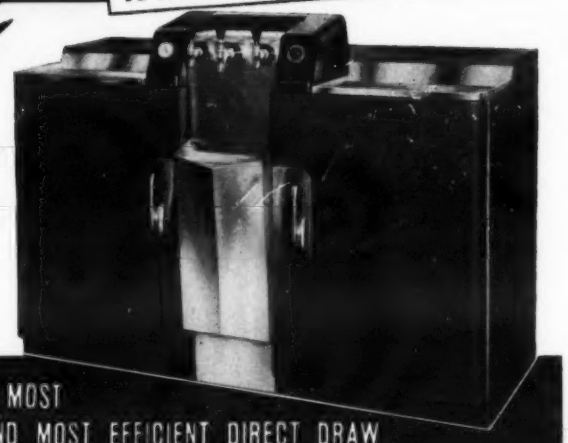


FEATURING: THE UNI-BAR TAP CONTROL CENTER

This new tap box is the most efficient control center of any direct draw system ever designed. A sure money maker for you!

A NEW HIGH IN EFFICIENCY

SHOWN:
UNI-BAR
MODEL 2D



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THE NEWEST - MOST ADVANCED - AND MOST EFFICIENT DIRECT DRAW DRAFT BEER DISPENSING SYSTEM EVER OFFERED

At a competitive price

Available: in two keg (stores and cools a third keg) and 3 keg models (stores and cools a fourth keg) in beautiful baked on tavern brown finish or stainless steel—for remote hook up or self contained—with or without bartop—with or without bottle cooling and storage section

Write Today For Complete Information, Prices and Literature

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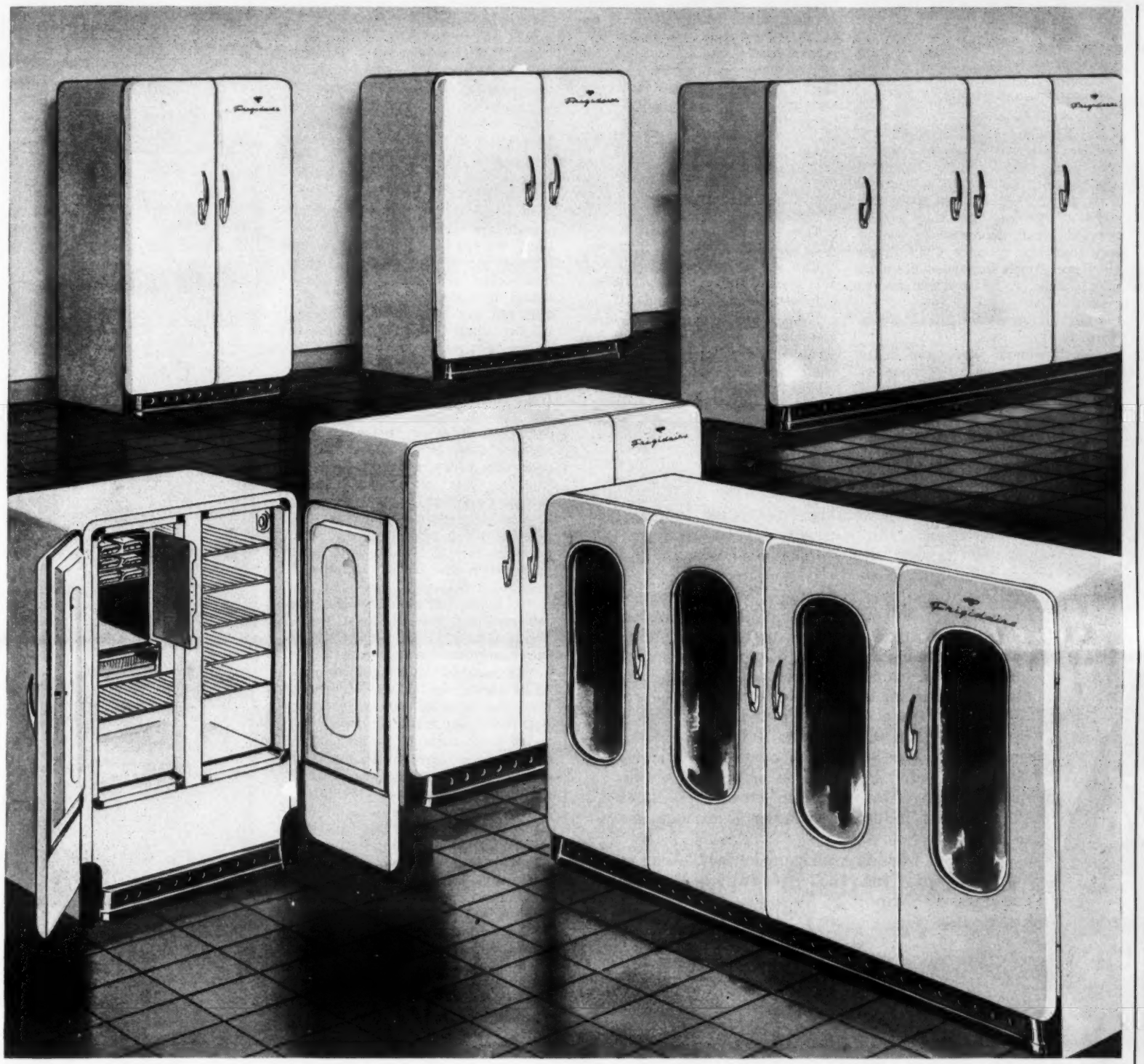
UNIFLOW MANUFACTURING CO.
EAST LAKE ROAD. ERIE, PA.

BUILDING YOUR BEST VALUE IN BEVERAGE COOLERS SINCE 1932

ANOTHER IMPORTANT DEVELOPMENT IN FRIGIDAIRE'S PACKAGED PRODUCT EXPANSION

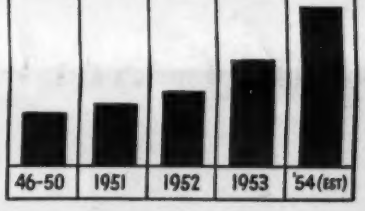


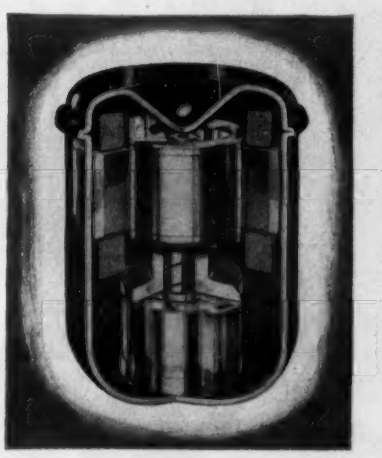
Unmatched for selling features . . . the complete line of Frigidaire Reach-Ins consists of eight great models. The two 17 cu. ft. models offer customers a choice of cooling units—model RIT-17 with exclusive "Flowing Cold" system, and model RIT-17C equipped with Super-Freezer Ice Making Cooling Unit that provides space for 56 lbs. of frozen food and 6 Quickube Ice Trays. Compact, streamlined 27, 44 and 62 cu. ft. models with "Flowing Cold" cooling systems offer maximum storage space in a minimum of floor space. Three glass-door models in 27, 44 and 62 cu. ft. capacities, complete the line. All models have Lifetime Porcelain interiors and acid-resisting porcelain floors.

Outstanding Reach-In models are part of long-term plan to give Frigidaire Commercial Dealers greater sales opportunities

Frigidaire's complete line of beautiful, feature packed Reach-In Refrigerators is typical of the packaged product lines behind which Frigidaire is throwing the combined weight of engineering know-how, expanded production facilities and stepped-up promotion. This all adds up to more effective selling, because dealers can now concentrate their efforts on established lines of packaged products with definite sales-winning features.

Placing major emphasis on packaged products has already paid off in more sales for Frigidaire Commercial Dealers as shown by the chart. It will continue to pay off, too, in more and better lines of products, in added selling features, in heightened efficiency and product dependability—as well as in easier installation and simplified servicing. And many more important developments are being planned on Frigidaire drawing boards today, designed for the specific purpose of adding greater depth and greater selection to these packaged lines.

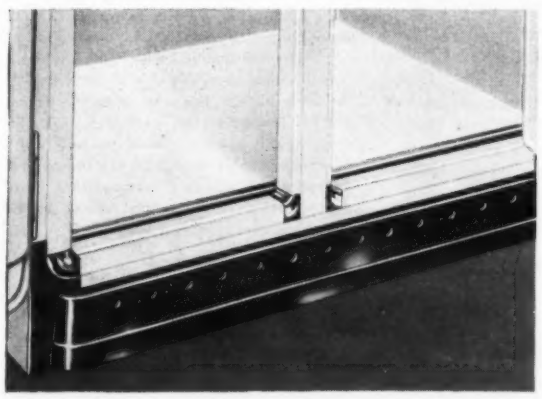




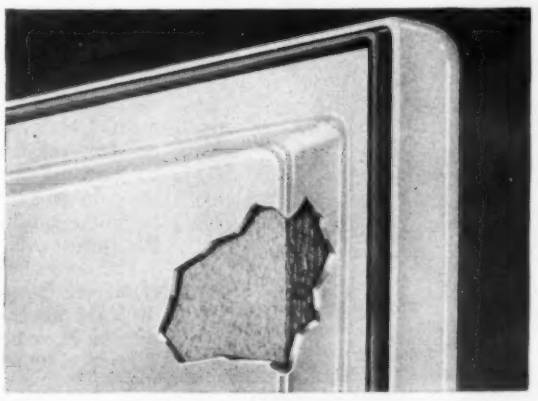
Frigidaire Meter-Miser gives exclusive selling advantage

The heart of the Reach-In, and of practically every other Frigidaire packaged product, is its Meter-Miser mechanism—warranted 5 years.

Customers and prospects recognize the advantages of the Meter-Misers used in reach-ins, water coolers, ice cube makers, and millions of household refrigerators, and the XD Meter-Misers for remote operations. These famous compressors give dealers an exclusive story of economy and dependability that often clinches the sale.



All-steel cabinet—porcelain interiors . . . just *two* of the Reach-In features that give Frigidaire Dealers a real sales story. Interiors and exteriors are beautifully styled—an important factor in many commercial installations.



Heavy, 3" thick blanket of fibrous glass wool insulation throughout cabinet and doors protects food within. Blue rubber door seal on inside edge of all doors provides snug, sure fit . . . locks cold in.

Quality construction

For over 30 years, Frigidaire's reputation for top quality construction and workmanship has been unequalled. It's another sales-winning fact Frigidaire Dealers can use to prove that Frigidaire Reach-Ins give customers peak refrigeration value . . . year in, year out.

Stepped-up Reach-In Promotion

Frigidaire Reach-Ins are being advertised extensively with attractive, full-page ads in carefully selected media directed to the greatest Reach-In market. Frigidaire Reach-In ads are currently appearing in such publications as *Institutions, Bar and Restaurant, Fountain and Fast Food* and *Resort Management.*

FRIGIDAIRE COMMERCIAL REFRIGERATION AND AIR CONDITIONING

—for growth and progress with General Motors

XUM

'Self-Service Meat Here to Stay'--

(Concluded from Page 1, Col. 3)

Super Market Institute and offered to conduct a survey project for the general good of the industry, we suggested that a study of customer buying habits and attitudes toward the self-service method of selling meats might prove to be a fertile field—that it was just possible facts might be dug up that would awaken the industry to some weaknesses and serve as a guide toward intelligent action in correcting such unknown shortcomings, if they existed," he explained.

Surveyed 602 Housewives

"With the help and guidance of the SMI executive director and the Research Advisory committee, *Woman's Home Companion* made plans for such a survey. In November of last year, personal interviews were conducted with 602 housewives in Boston and Cincinnati—two cities in different parts of the country in which good self-service meat operations have been carried on for many years. A preliminary report has been completed in time for this convention," he said.

"1. Over two thirds (68%) of all women say they make their 'biggest weekly purchase' of one or more major types of food in a supermarket.

"However, only 44% of all women make their 'biggest weekly purchase' of fresh meat in a supermarket.

"2. Supermarkets are not doing nearly as well in attracting housewives to make their 'biggest weekly purchase' of fresh meats as they do for groceries or fresh fruits and vegetables. It is also interesting to note that housewives do more 'shopping around' for meats than for any other major food," Eavey said.

"Bearing in mind that 68% of all women make their 'biggest weekly purchase' of one or more major types of foods in a supermarket, the major departments show up as follows:

Groceries	65%
Produce	50%
Fresh meats	44%
Dairy	31%
Bakery	29%

"The last two items, of course, are widely sold by specialty shops and house-to-house delivery routes.

"3. Seven out of every 10 housewives (71%) say that they prefer service meat departments, while less than one quarter (22%) say they prefer self-service meats, and only a few (7%) have no preference.

"The findings here also indicate that:

"Most women who now make their 'biggest weekly purchase' of fresh meats in self-service markets are sold on the self-service method.

"The majority of women now buying their 'biggest weekly purchase' of meat in partial self-service meat departments prefer clerk service.

"Practically all women now using clerk service for their 'biggest weekly purchase' prefer that method.

"While consumers do not always follow their stated likes and dislikes, nevertheless their attitudes deserve most serious consideration," he suggested.

"4. The women were asked when they last bought meat by the self-service method. The survey shows that 79% of all women had some experience with self-service, 46% bought at least some meat self-service within the past week, another 11% did so within the past month, and 22% made their last self-service meat purchase more than a month before the interview. One out of five women (21%) had never tried self-service meat.

Reasons for Preference

"5. The main reasons for preferring self-service meat departments are:

Like to make own choice	40%
Saves time	19%
Can see what I am getting	15%
Can take time to select	12%

"Most women who have tried self-service meat were satisfied, 73% were completely satisfied with their last purchase of self-service meats and only 10% were definitely dissatisfied. Yet only 22% of all women expressed a preference for self-service. Why?

"It would appear that the opposition to self-service is founded on psychological reasons rather than dissatisfaction with the end results of this method of merchandising," Eavey said.

"6. In order to determine the nature of this psychological barrier, if that is what it is, let us turn to the reasons given for preferring clerk service:

"27% prefer clerk service because they 'can tell the butcher how to cut the meat.'

"24% think that service departments give 'fresher, better quality.'

"18% indicate lack of knowledge on their part. They prefer clerk service because 'the butcher knows more' and is available for advice.

"14% like clerk service because it offers 'personal service.' While this element is hard to define, it is probably closely aligned or synonymous with reasons 1 and 3, 'can tell the butcher how to cut meat' and 'butcher knows more.'

Psychological Hurdle

"I personally feel that most of the hurdle is psychological in nature. For instance, although only 10% of the women said they were dissatisfied with their last purchase of self-service meat, a sizable number of women said they prefer clerk service because it offers 'fresher, better quality.'

"You and I know that in the modern, well-designed, self-service fresh meat department, the average piece of meat is better handled and fresher when it leaves the counter than ever before. Many operators today are actually cutting in their coolers, are using refrigerated troughs and refrigerated selling cases which hold the meat at a far better average temperature, are definitely controling bacteria count better than was ever done before.

"It seems to me that the big job cut out for us here is to 'shout this from the housetops' to the American housewife.

"As regards the hunger for personal service and advice, I believe that the average housewife does not feel completely competent to judge fresh meat by looking at it.

"Where a store is doing a poor job in fresh fruits and vegetables, resulting in low sales, the situation can be reversed quickly. If you clean out all of the old, poor quality produce and replace it with new merchandise of high quality, with the 'bloom' that only real freshness makes possible, the answer in sales will be immediate. The customers coming into the store will buy practically all of their current needs in fresh fruits and vegetables from such a cleaned up and rejuvenated high-quality produce department," Eavey said.

Mistakes Remembered

"But this does not happen in meat. It takes a long time to live down quality and freshness mistakes that have been made in the meat department. Even if the market is cleaned up and made top-notch in every way, it is very difficult to regain customers who have been disappointed with your fresh meat in the past and have lost confidence in your meat department. I believe this is because they do not feel themselves competent to judge quality in meats, whereas they do feel themselves competent to judge quality in produce from its appearance.

"In our organization, we are trying to figure out how we can, at least psychologically, 'give the woman back her butcher' in a self-service meat department. We are not considering reversing progress and going back to a service meat department, but we are looking for a way to place our top technician where he will have maximum contact with the public. We want him back of (not in front of) a rear-fill meat case with no superstructure or other barrier on it. From this position, we believe that, if the setup is laid out right, he can still oversee and direct his entire operation and at the same time be physically 'on deck' where the customer can easily get his attention when she wants it.

"Improvements in our fresh meat operations, doing all we can to enable the customer to get exactly what she wants in fresh meats, are the keys to increased total supermarket sales and profits.

"The survey disclosed these compelling facts:

"1. Meat is served daily by 90% of all housewives interviewed.

"2. Meat is the item around which the big majority (89%) of all housewives plan their main meals or dinners.

"3. Meat is the item 'generally bought first' by three out of four housewives when they shop for their main meals or dinners.

"The unplowed opportunities that exist in this field are tremendous," Eavey said.

UP TO 95% WATER SAVINGS WITH McQuay COOLING TOWERS

Install McQuay Cooling Towers for low cost water cooling, minimum sewage costs, and protection against the water shortages that have developed in so many cities.

McQuay Cooling Towers are ideal water coolers for residential, commercial and industrial applications such as: condenser water, jacket water, air compressors, etc. Operation is quiet, dependable, economical. Centrifugal type fan and self-cleaning low pressure spray nozzles provide large quantities of air and water at low power demand. Only a small amount of fresh make-up water is required by these efficiently designed units. Provision is made for periodically adding fresh water to prevent excessive build-up of industrial fume concentrates and salts.

See your McQuay refrigeration wholesaler or write McQuay Inc., 1607 Broadway N.E., Minneapolis 13, Minn.

COLDER WATER is obtained with the new McQuay Cooling Tower. The expanded metal deck provides an unusually large wetted surface area over which cascades an abundant water flow, thereby providing optimum wet bulb approach. Colder water means peak compressor operation.

McQuay INC.

AIR CONDITIONING • REFRIGERATION • HEATING

1st CHOICE for HOSPITALS SCHOOLS CAFETERIAS and INSTITUTIONS

THE MARK OF A GOOD CASE — THE P-H LINE — ESTABLISHED 1898

Since its organization more than 50 years ago, the Puffer-Hubbard Manufacturing Company has been dedicated to but a single purpose — to build the finest quality commercial refrigerators it is possible to build. How well they have succeeded can best be measured by the fact that year after year more and more hotels, restaurants, food stores, bakeries, schools and institutions of every type are turning to the Puffer-Hubbard line. Owners everywhere will tell you, "In the long run it costs less to own the *very best!*" Regardless of what your refrigeration needs may be, it will be well worth your time to investigate the many advanced and exclusive features that make the Puffer-Hubbard line first choice in the commercial refrigeration field.

Lifetime FEATURES

★ Lifetime Porcelain or Stainless Steel Finish ★ 3" Fiberglass Insulation
★ Patented "Grad-U-Matic" Air Conditioning ★ Sag-Proof Door Construction
★ Tubular Electric-Welded Steel Frame
★ Solid or Triple Thermopane Glass Doors
★ Automatic Self-Defrosting Freezing System ★ Underwriters Approved. Complete Line of Dough Retarders, Baked Goods Freezers, Walk-in Coolers Also Available.

See Your Nearest Dealer or Write Factory For Complete Illustrated Literature.

PUFFER-HUBBARD MANUFACTURING COMPANY
GRAND HAVEN, MICHIGAN
EXPORT OFFICE — Puffer-Hubbard International, 440 Lafayette St., New York City. Cable "Manretsup"

It All Adds Up!

FROM MART, APRIL, 1954

"In recent batch of *Mart* mail, received from dealers, are praises for policies of certain manufacturers, including .... (and) KELVINATOR. Retailers desperately need protection against predatory competitors; appreciate help when they get it."

THIS RESULTS FROM THIS

FROM THE KELVINATOR FRANCHISE PRESENTATION

"It is a matter of record that *by choice* Kelvinator has fewer dealers than any other major manufacturer in the appliance industry...

"The answer lies in Kelvinator's concern for the dealer's welfare. For if there is one undisputed rule of retailing, it is that the dealer best able to cope with competitive conditions and the ups and downs of sales is the dealer with the best command over his market."

TO MAKE

Faithful adherence to this policy of "an adequate dealer for every market and an adequate market for every dealer"... backed by retail-minded products, merchandising ideas and materials has made the name Kelvinator a symbol of sound progress to successful retail appliance dealers the nation over.

Kelvinator
Division of American Motors Corporation, Detroit 32, Michigan

THE MOST VALUABLE FRANCHISE IN THE APPLIANCE INDUSTRY

ELECTRIC REFRIGERATORS • RANGES • HOME FREEZERS • WATER HEATERS • KITCHEN CABINETS AND SINKS • WASHERS • DRYERS
IRONERS • GARBAGE DISPOSERS • WATER COOLERS • ROOM AIR CONDITIONERS • DEHUMIDIFIERS • COMMERCIAL REFRIGERATION

Complete Training Course Teaches You

HOW TO MAKE $20,000

THIS YEAR in AIR CONDITIONING

Every word written by prize winning air-conditioning salesman, Peter Paules. You learn how to start a lucrative business right in your own home selling commercial and home air conditioning units and systems. Course consists of 15 sections, 215 pages, 70,000 words. You get the complete formula—the "Air Conditioning Forecast"—a success formula, including how to start on practically no capital; simple ABC engineering facts; how to get prospects' names; right and wrong customer approaches; 15 objections and how to overcome them; how to estimate water and drain line costs; 8 steps necessary to make an installation survey; and many other valuable facts and sales helps.

7-DAY FREE TRIAL OFFER

This complete course in 15 sections is sent without risk. Just rush your name and address and we'll tell you how this valuable money-making guide to air conditioning profits can be yours on free trial. Don't delay. Send no money—just your name and address **now.**

AIR CONDITIONING FORECAST
Dept. R6, 3400 N. 77th St.
Milwaukee 10, Wis.

Rush all details of your free examination offer of your books on how to own and operate a successful air conditioning business, all without cost or obligation to me.

NAME .....

ADDRESS .....

CITY..... ZONE... STATE.....

Hotpoint Offers New Timer for Automatic Room Unit Operation

CHICAGO — To help stimulate air conditioner and dehumidifier sales during the coming months, Hotpoint Co. is offering dealers and distributors two new timer switches "to complete a well-rounded service for prospects."

The new "skipper" switch used with a Hotpoint air conditioner makes the operation fully automatic, the company explained. It can be set to go on or off at selected hours; operate seven days or skip every other day; or in offices, be set before the workers come to work and cool the office.

The unit is available in 115-volt and 230-volt operations up to 1 hp.

For dehumidifiers, Hotpoint is offering dealers and distributors a small new "timer-all' timer which turns the dehumidifier on or off at selected hours. Where full-time operation is not required, it helps maintain proper humidity and saves operating expenses without frequent personal attention, the company pointed out.

It is available for 115-volt operation only and can be used on air conditioners and other appliances where only a simple timer is required.

John F. McDaniel, vice president of marketing, said that dealers can use these two devices as sales stimulators, or other them as premiums to prospective customers, with the purchase of an air conditioner or dehumidifier.

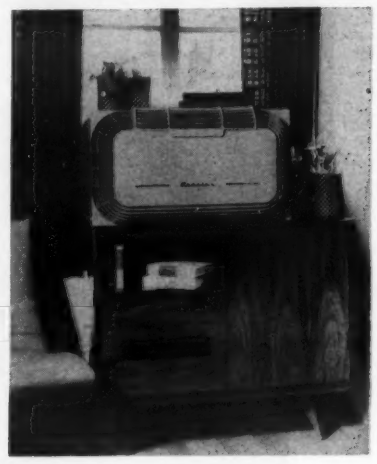
He said that proper merchandising of these two timer devices could very well be the deciding factors in certain sales.

Minn. Supplies Wholesaler Is UsAirco Distributor

MINNEAPOLIS — Vincent Refrigeration & Heating Supply Co. of Minneapolis has been named a distributor for packaged refrigeration equipment and gas-fired unit heaters by United States Air Conditioning Corp.

The wholesaler will merchandise gas heaters in the territory including Minnesota, North and South Dakota, northwestern Wisconsin, and northern Iowa, and will cover the same area, with the exception of Minneapolis and St. Paul, with the refrigeration equipment. The latter includes home air conditioners, window type room air conditioners, and packaged air conditioners.

Founded in 1936, the distributing firm is a division of Vincent Brass & Copper Co. UsAirco sales will be directed by George M. Jensen, general manager, who reported that Vincent's sales for the first quarter of 1954 were 6% above the corresponding period in 1953.



Two Ways That Are 'Different'

HERE'S TWO WAYS of installing room air conditioners in homes, suggested by Carrier Corp., that differ from conventional installations. If the homeowner prefers the unit up out of the line of sight, the unit can be installed as shown at the left. On some other than standard-type windows, as at right, the unit can be backed up to the window and the glass behind it removed, with a special gasket sealing around the opening. The air conditioner can be placed on an attractive chest (as here) or on legs, a bookcase, or other supports.

Nudelman Handles Cory In South Chicagoland

CHICAGO—J. W. Alsdorf, president of the Cory Corp., has announced the appointment of Mort Nudelman as assistant territory manager for the southern Chicagoland area.

M. Nudelman

In his new position, Nudelman will handle the sales of Cory and Nicro appliances and housewares, and of Fresh'nd-Aire air conditioners and air treatment appliances throughout the south side of Chicago down through central Illinois and in Lake county, Ind. He will be working with Chicagoland territory manager Ken Craig, and will headquarter in Cory's home offices in Chicago.

Prior to his new association with Cory, Nudelman has had extensive sales experience as appliance department manager with Holland's Jewelers, Chicago; midwestern territory manager with Wilcox & Follett, Chicago publishers; sales representative with National Theatre Premium Service; and assistant manager with Cousins Jewelers, Hammond, Ind.

Name Frazier Field Mgr. Of AAF Filter Sales

LOUISVILLE, Ky. — John W. Frazier has been named field manager of air filter sales by American Air Filter Co., Inc. here.

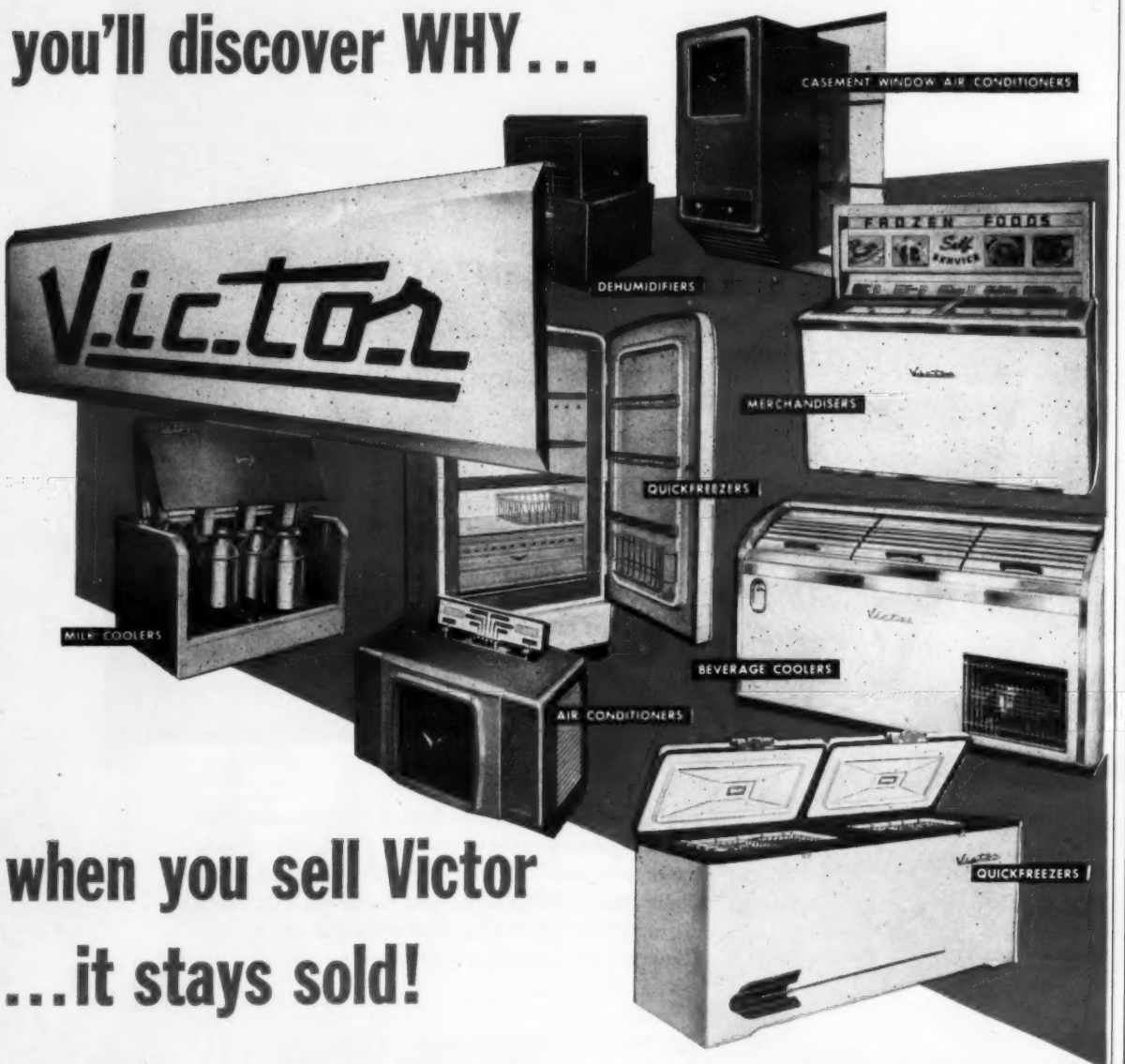
He served as general sales manager of Trion, Inc., McKees Rocks, Pa., during the past seven years and had formerly been supervisor of dealer relations with Equitable Gas Co. in Pittsburgh.

Now with headquarters in the Oliver building in Pittsburgh, he will work with the various district sales offices of the company.

The position of field manager of air filter sales is a new one with the company, according to John Hellstrom, vice president for sales, and its creation is a move to further coordinate the work of the company's national sales engineering organization.

Look behind the nameplate...

you'll discover WHY...



when you sell Victor

...it stays sold!

There's no profit in a sale that takes repeated service calls, complaints, repairs and correspondence to keep it sold. When you sell Victor . . . you know that it is backed with the best engineering know-how in the business . . . you know that it has been made right . . . tested and proved with the experience of almost 35 years in refrigeration.

Whether it is Commercial Refrigeration, Quickfreezers, Dehumidifiers or Air Conditioners *make it Victor* . . . and you'll be sure of a sale that stays "sold."

Victor PRODUCTS CORPORATION
Hagerstown, Maryland

Watch for Victor's Big Advertising Campaign in LIFE!

VICTOR PRODUCTS CORP.
Dept. A-11, Hagerstown, Md.

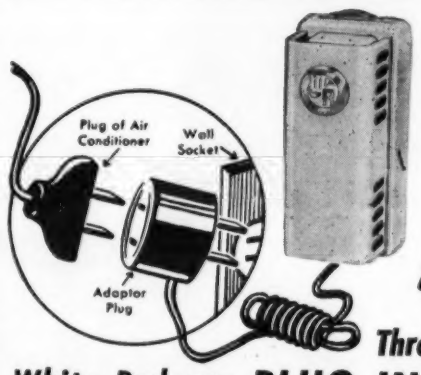
Please send me more information about the following Victor products: .....

Name .....

Company .....Title.....

Address .....

City .....Zone....State.....



MAKE THESE EXTRA PROFITS!

Through extra sales with White-Rodgers PLUG-IN THERMOSTAT for Room Air-Conditioners

FREE Display Sells for You!

Your initial order of ten controls brings this dramatic display without charge . . . acts as your silent salesman . . . brings extra profits to you.

It's easy to sell these White-Rodgers Plug-in Thermostats because they increase comfort, save current and reduce running and wear of cooling units. Wherever you sell, have sold, or service a room air-conditioner, there's a sale to be made.

No installation problem — just mount the thermostat and plug in like a lamp. Control carries 1 hp. rating, can be used with practically all 115 volt room air-conditioners and all window fans.

SEE YOUR WHOLESALER or write us direct for name of your nearest wholesaler with stock on hand.

WHITE-RODGERS Controls FOR REFRIGERATION HEATING AND AIR CONDITIONING

1209 Cass Ave.
St. Louis 6, Mo.

Crosley Appoints Allen To Appliance Sales Post

CINCINNATI—H. J. Allen, recently named refrigeration sales manager for Crosley Div., Avco Mfg. Corp., has been promoted to field sales manager of appliances.

H. J. Allen

John K. Knighton, appliances general sales manager for Crosley, announced Allen's appointment. He replaces Thoben F. Elrod, who resigned to head up his own firm in Atlanta to distribute Crosley products and Bendix home appliances.

Allen came to Crosley early this year from Admiral Corp. where he was most recently sales manager of the Philadelphia region. He has also held positions with RCA, as vice president of RCA Victor of Brazil, sales manager of the record division, and field representative.

14 Appliance Dealers Form Buying Combine In East

NEWARK, N. J.—United Thrift Stores is the name of a buying combine organized recently by 14 Newark and North Jersey appliance and television dealers in an effort "to stay in business."

Bob Russo of Paramount Television here, vice president of the incorporated group, said the stores will continue under their individual ownership but will promote and advertise as members of United Thrift Stores.

Membership in the organization is open, according to Russo, who pointed out that the group will seek members who are not located too close geographically. He said dealers will be screened and accepted only after a vote of the membership. Initiation fee is $125.

In addition to Russo, officers are Ted Callahan, C & M Sales, Union, president; Louis Terlizzi, Terlizzi Brothers, Bloomfield and Montclair, treasurer; and Michael Tobia, Tobia's, Hillside, secretary.

Deepfreeze Ups Simpson To Manager of Purchases

N. CHICAGO, Ill.—The promotion of Darrell Simpson to manager of purchases for Deepfreeze Appliance Div., Motor Products Corp., was announced by Pat Leone, manager of operations.

Darrell Simpson

Simpson has been on the Deepfreeze purchasing department staff since 1948. Previously he held purchasing positions with Sparks-Withington Co., at Jackson, Mich., the Chrysler Corp. at its Dodge plant in Chicago, and the U. S. Rubber Co. at Mishawaka, Ind.

As head of the purchasing department at Deepfreeze, Simpson succeeds Harold W. Bartley, resigned.

Boston, Spokane Firms To Handle Servel Appliances

EVANSVILLE, Ind. — Appointment of new Servel appliance distributors in Boston and Spokane was announced here by Neal E. Schuman, field sales manager of the appliance division of Servel.

L. J. McAllister Co., Boston, will represent Servel in eastern Massachusetts and southern New Hampshire. Tel-Electric Co., Spokane, will cover eastern Washington and the "panhandle" of northern Idaho.

Korsmeyer Plans Branch In Grand Island, Neb.

LINCOLN, Neb. — The Korsmeyer Co., midwest wholesale distributor of major appliances, will open a new branch office in Grand Island soon, it was announced by President A. T. Korsmeyer.

Arrangements have been completed for the purchase of office, showroom, and warehouse facilities at 604 E. 4th St. in Grand Island, he said.

The Korsmeyer Co. was organized in 1884. It is reported to be the third oldest independent electrical wholesale firm in the United States and the oldest west of the Mississippi. The firm serves dealers in Iowa, Missouri, Kansas, Colorado, Wyoming, South Dakota, Minnesota, and Nebraska.

Deepfreeze Adds 9.6-Cu. Ft. Left-Hand Door Refrigerator

NORTH CHICAGO, Ill.—A left-hand door model refrigerator in the 9.6-cu. ft. size has been added to its line by Deepfreeze Appliance Div., Motor Products Corp.

The model FL-10, which will retail at $239.95, is identical to the model F-10, except for the left-hand door. Among the features included with this model is a frozen food compartment and drawer of about 50-lb. capacity, crisper, and three door shelves.

Paul Kennedy Appointed Servel Regional Manager

EVANSVILLE, Ind. — Paul R. Kennedy has been appointed southern regional manager of Servel, Inc., according to James F. Donnelly, vice president in charge of sales. He succeeds A. J. Schullstrom, who has resigned.

P. R. Kennedy

As southern regional manager with headquarters in Atlanta, Kennedy will be responsible for the promotion and sale of Servel refrigeration and air conditioning products through distributors in nine southern states.

Kennedy is a native of Ashtabula, Ohio. After his graduation from the Carnegie Institute of Technology, he worked for the Cleveland Electric Illuminating Co. in Cleveland and Ashtabula. From 1934 to 1938, he was associate director at Cleveland and Columbus of the Federal Housing Administration. He was later associated with the Equitable Gas Co. of Pittsburgh.

Kennedy joined Servel in 1947 as assistant advertising and sales promotion manager. He later held several district posts.

HOUSEHOLD REFRIGERATION

San Diego Plans Night College Classes To Teach Appliance Selling and Management

SAN DIEGO, Calif.—A "revolutionary" educational program, believed to be the first of its kind in the nation, is being established by the San Diego junior college for the Bureau of Home Appliances of San Diego County, it was announced recently by J. Clark Chamberlain, bureau secretary-manager.

"Under this plan, which our sales training committee has long been developing with school authorities, the degree of Associate in Arts will be offered to our industry people who successfully complete this junior college program," Chamberlain said.

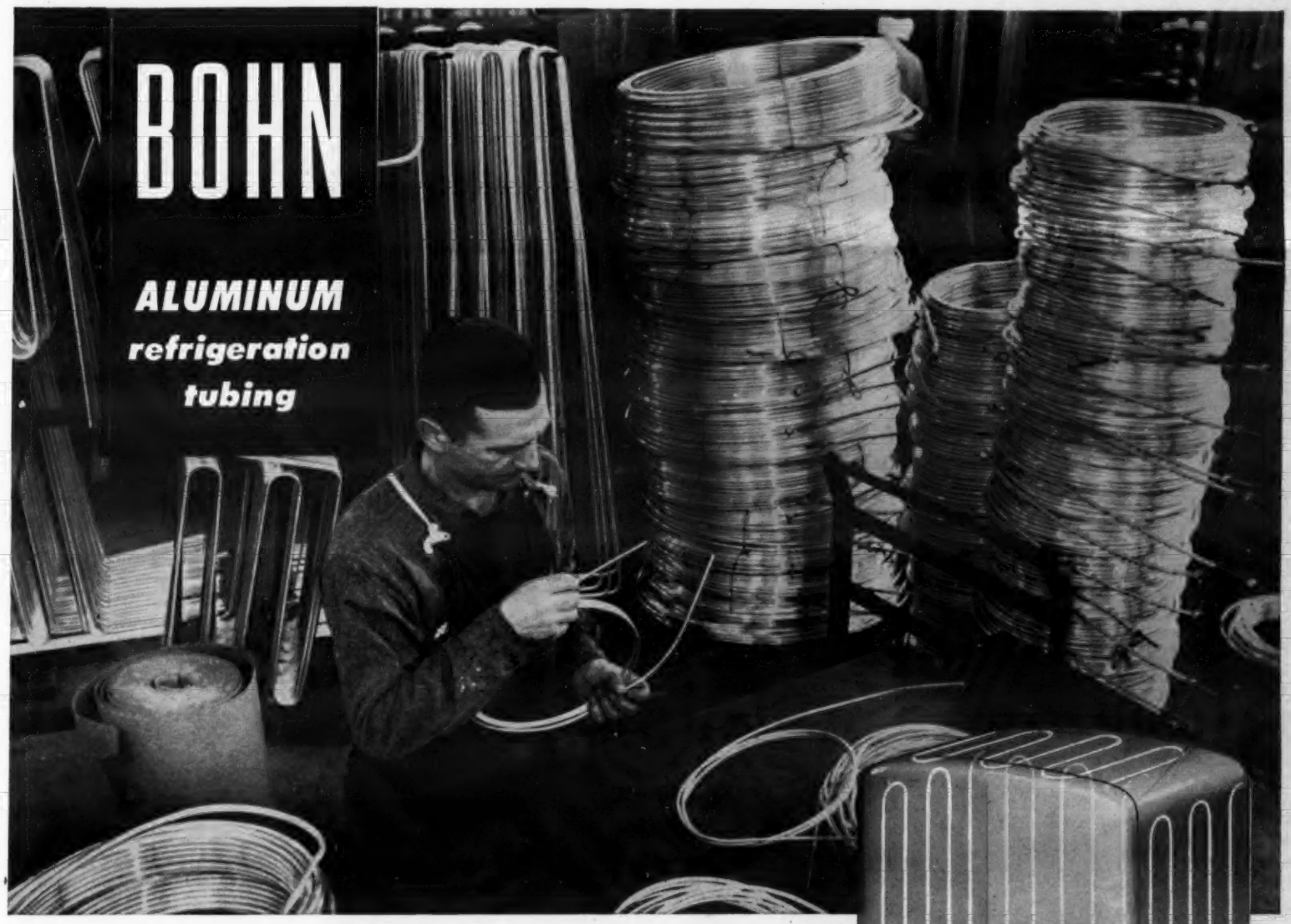
"A series of courses, specially tailored to our industry requirements, will be given at the junior college during evening sessions. A total of 60 units will complete this program, leading to the award of the Associate of Arts degree."

Chamberlain said one of the most unusual phases of the program is that of generous allowance of unit credit for (a) graduates of the bureau sales training classes; (b) industry experience in selling, merchandising, advertising, or promotion; (c) military service; and (d) previous schooling.

"Our sales training committee is tremendously enthused over the far reaching possibilities of this new program," Chamberlain reported. "Enthusiastic support has also been given by our board of directors.

"Many of our people are convinced this is the greatest step ever taken here or elsewhere to re-establish the true importance of selling and management within the appliance industry, with its certain prospect of bringing new dignity to selling and an entirely new outlook on the business future for those of our people who will avail themselves of this educational program."

The program is scheduled to start in September. In the meantime, a special brochure describing the plan will be developed for distribution to all San Diego bureau members.



More economical • Easier to shape and bend

Bohn aluminum refrigeration tubing helps reduce costs because it is easier to form. It also works more efficiently in the finished product because aluminum is an excellent heat conductor. Bohn aluminum refrigeration tubing is available in bulk coils, specified patterns or cut to required lengths with dependable, flash-butt welded copper leads.

EVAPORATORS • FREEZER PLATES • TUBING • COILS & CONDENSERS

BOHN ALUMINUM AND BRASS CORPORATION
1400 LAFAYETTE BUILDING DETROIT 26, MICHIGAN
Sales Offices: BOSTON • CHICAGO • CLEVELAND • DAYTON • DETROIT
INDIANAPOLIS • LOS ANGELES • MILWAUKEE • MINNEAPOLIS • NEW YORK
PHILADELPHIA • ROCHESTER • ST. LOUIS

SHELL CONDENSER APPLICATION of Bohn aluminum refrigeration tubing for either chest or upright freezers.

SPECIALTY SELLING METHODS

Products for cooling the home can be sold in a "specialty selling" step-by-step planned sales approach, just like appliances.

Viking Air Conditioning Division of The National Radiator Co. has developed such a step-by-step plan for use by retail salesmen in selling its large home-cooling fan. Viking recently produced a series of "action" photographs showing how such a sale can be made on the dealer's floor.

These illustrations are presented here because we think that they will serve as an aid and an inspiration to planned selling for those who are now concentrating on the sale of home cooling products.

Step by

1. First of all, greet the customer cordially and try to qualify him. Your experience should tell you how to do this. Get the customer over to the display—preferably comfortably seated—then start the pitch:

"Now here, Mr. Doe, is what this fan can do for you. Everybody in the house sleeps cool. (Point to this message on the display.)

Step

2. "Here's a brochure that tells some of the advantages of big fan cooling. Let's look at the chart down here in the lower right corner. It shows the temperature on the hottest day in 1952 in each state, then how much the mercury dropped at the same place that night. You can see how great the temperature difference was right here in our own state. (Point to your state.)

"If you're wondering why it is that your home is so uncomfortable on summer evenings, remember that it's been soaking up heat from the sun all day. When the sun goes down and temperature outside drops quickly, that heat radiates from the walls, the ceiling . . . even the furniture. It's like living in a big oven."

Procedure

3. "Now we want to get that radiating heat out of the house as quickly as possible and replace it with cool outside night air. Big fan cooling is one way to do it. As you can see in this diagram, the window fan draws in cool outside air through open windows in the rooms to be cooled, at the same time pushing out hot, stagnant air. It gives the average five-room home a complete air change every two minutes."

In Selling

4. "Just press one of the handy push-button controls on the front of the cabinet (point to pushbuttons), and the fan exhausts at high speed until the home is cool.

"Here (hold handkerchief in front of fan) . . . look at the way it draws my handkerchief. Powerful, isn't it? That proves how much air a big fan exhausts from your home . . . and it does it quietly. At the same time, it's 'washing the walls' with cool night air to get rid of radiating heat.

"Once your house is cool, press the 'lo' speed button, and the fan maintains a cooling circulation as you sleep."

Household

5. Here are all your controls (point to buttons and timer), conveniently mounted on the front of the fan cabinet. Besides the pushbuttons for controlling the direction and speed of the air movement, you'll want this automatic timer, controlled by this knob.

"Now with this timer, you can select how long you want the fan to run after you're in bed. You can pre-set it for any period from three minutes to 12 hours. For instance, if you go to bed at eleven and want the fan to turn off at two, set the timer for three hours then go to sleep in comfort. It will automatically turn the fan off for you, and keep the house from getting too chilly during the night."

Cooling

6. "During the day, you can use this window fan to 'spot-cool' the room in which it's located, just by pressing the high or low speed 'intake' pushbutton on the front of the cabinet, depending on what degree of moving air comfort you want (point to buttons).

"Ordinarily any fan this big would produce almost unbearable blasts of direct air, but this one is different. (Hold handkerchief in front of fan.) See how the handkerchief is gently blown to the side? The cabinet grille and louvers break up strong direct air blasts and disperse them to the sides of the room. We call this 'four-corner' cooling. You can play bridge right in front of the fan and it won't even ruffle the cards."

Units

7. Now you've shown the prospect what the fan is, what it does, and that it will be an asset in his home. At this point he's ready to be closed. Now you get specific with something like this:

"This fan will only run you $0.00 complete, Mr. Doe. We have a convenient budget plan you can use if you'd like. Would it be easier for you to pay (amount for short period) or (amount for longer period) a month?"

New Quicfrez Distributor Named for Minneapolis Area

MINNEAPOLIS — Our Own Hardware Co., 618 N. Third St. here, has been named a distributor for Quicfrez, Inc., Harry Ryan, vice president in charge of sales for Quicfrez, announced recently.

2-Day Open House Marks Move to Larger Quarters By South Jersey Firm

LINWOOD, N. J.—During a recent two-day open house, George F. Jones, owner of South Jersey Appliance Service Co., welcomed the public to his new, larger quarters at Maple Ave. and New Rd. here.

The new facilities provide approximately 1,500 sq. ft. of space. A portion of this is occupied by a fully-equipped shop for repairing major household appliances.

Front space is devoted to a display of appliance accessories, where parts may be purchased by the public. Jones has inaugurated this feature so "Do It Yourself" customers can quickly obtain the parts they need to do their own servicing.

The move to the larger quarters was made necessary by a steady increase in business since the firm's formation in 1946, according to Jones, a World War II veteran who was formerly with a chain food store.

The business has grown from a one-man, one-truck operation to a concern which now has seven on the payroll and four trucks. Its service area has expanded from Linwood and vicinity to an area extending from Cape May to Beach Haven.

Jones is also a Linwood councilman and secretary of the Atlantic County League of Municipalities, the announcement said.

Deepfreeze Appoints 3 Field Representatives

N. CHICAGO, Ill. — Three new assignments in the field sales organization of Deepfreeze Appliance Div., Motor Products Corp., have been announced by L. R. Walker, manager of field sales.

W. M. Marsh, formerly manager of the Memphis zone, has been promoted to midwestern regional manager, succeeding J. T. Hagan, who recently was appointed eastern regional manager. Marsh, with headquarters in Kansas City, Mo., will be responsible for a territory extending from Minnesota to Texas.

R. W. Goodspeed, Deepfreeze eastern regional service manager for five years, has been named sales manager to serve the Boston zone.

Angus T. Shearer, who has 18 years' experience in the appliance business, and recently was a distributor sales manager in the Tulsa area, has been appointed sales manager for the Oklahoma City zone.

BEFORE YOU START YOUR NEXT JOB . . .

. . . Ask your distributor for the whole ANACONDA line of refrigeration products

- Hard copper tubes in straight lengths and all sizes . . . soft copper tubes in packaged coils . . . copper tube fittings . . . American Vibration Eliminators
- Made under strict quality control from start to finish

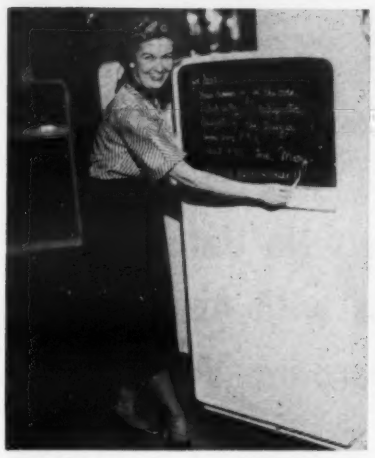
THE AMERICAN BRASS COMPANY, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

SALES MANAGER

MAJOR APPLIANCES

National manufacturer of complete line of major home appliances has opening for general sales manager in a large Midwest branch. Experience in similar capacity with distributor or factory branch required. Salary, bonus, and benefits. In reply state education, experience and age.

Box 4581, Air Conditioning & Refrigeration News



JUNIOR'S SLATE has a modern setting now. Its newest niche is on the door of the refrigerator. Mother can chalk her mealtime instructions where they are sure to be seen on this washable plastic blackboard material which fits on the front of all models of a new line of refrigerators.

The novel use was introduced by Paget Burke (shown above), home economist and receptionist in International Harvester's general office showroom.

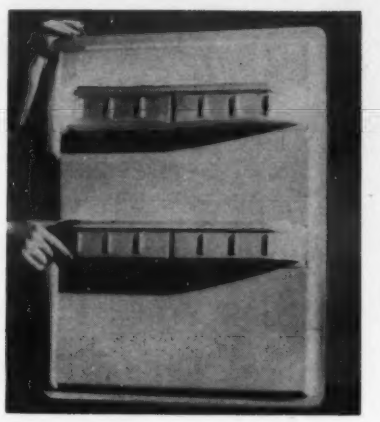
Deepfreeze Names Seibert As Export Sales Manager

CHICAGO—Appointment of S. J. (Wes) Seibert to the new position of export sales manager of Deepfreeze Appliance Div., Motor Products Corp., has been announced by J. A. Rishel, Jr., general sales manager of appliances.

S. J. Seibert

Seibert will head a new department responsible for sales of all Deepfreeze appliances in all countries outside the United States and Canada. Heretofore such sales were handled under an export distributor arrangement. Seibert, who has been manager of Canadian sales, will continue in that capacity.

A veteran of 26 years in the appliance industry, Seibert is experienced in selling at the dealer, distributor, and manufacturer levels. He joined Deepfreeze in 1944.



Refrigerator Door Liner Vacuum-Formed In Plastic

COLDWATER, Mich. — A new refrigerator inner door panel vacuum-formed from strong, lightweight "Campco S-300" polystyrene alloy sheet has been announced by L. A. Darling Co. here.

Use of this new impact-resistant polystyrene-rubber alloy sheet for refrigerator inner door panels marks a departure from traditional industry use of metal or injection-molded thermoplastic materials, the company says.

Produced by the Campco Div. of Chicago Molded Products Corp. in sheet form, the new Campco S-300 requires no finishing or painting after it comes from the reinforced plastic vacuum mold. It combines an easy-to-clean gloss surface with excellent insulating qualities, and it has dimensional stability over a wide range of temperatures, the company says.

Shelves for the refrigerator door liner, designed to hold packaged perishable foods, are also formed of Campco sheet, cemented permanently to the panel surface.

Graybar Appointed Thor Distributor In Columbus

CHICAGO — Thor Corp. announces the appointment of Graybar Electric Co., Inc., Columbus, Ohio, as distributor of Thor appliances in the area.

Graybar replaces Gustav Hirsch Organization of Columbus.

HOUSEHOLD REFRIGERATION

For Mid-Year Selling Peak!

Norge Spring-Summer 'Value Festival' To Offer Nationally-Advertised Premiums

CHICAGO — A spring-summer "Value Festival" featuring a selection of 13 nationally-advertised premiums was announced for dealers recently by Norge Div. of Borg-Warner Corp.

R. C. Connell, director of sales, said a kit with complete materials for the promotion is now going to dealers to help them capitalize on the mid-year selling peak.

ONE OF A SERIES

The Value Festival is one of a continued series of special merchandising plans designed for Norge dealers, Connell said. The company also will prepare promotions for later summer, fall, and other seasonal events.

"In these highly competitive selling times, good products alone, aren't enough. Manufacturers also must provide more direct selling aids than ever before," he declared.

The merchandising kit for the Value Festival contains a guide book telling how to set up and conduct the promotion, fluorescent window and store banners, pennants, newspaper ad mats, giant postcard mailers, publicity kit, and many other dealer selling helps.

Connell said dealers are urged to schedule at least a one-week festival, with two, three, or four-week promotions strongly recommended.

PREMIUMS LISTED

Premiums available for the festival include cookware sets with retail values from $5.95 to $50, power lawn mowers which retail from $79.95 to $149.95, a $5.95 barbecue grille, and a $29.95 deep fryer.

Other premiums are a $2.95 aluminum pitcher and Norge's standard laundry equipment items, including clothes carrier, hamper, drain tubs, towel sets, and supplies of "Rinso," "Tide," and "All."

Traffic builders to be offered free to prospects include mystic jar openers, frozen food saws, masonite cutting boards, and "Laundry Maids" plastic aprons.

Case Heads Refrigerator, Freezer Sales Training For Westinghouse

MANSFIELD, Ohio — Appointment of William J. Case, Jr., as manager of sales training for refrigerators and freezers was announced recently by George W. Erdmann, merchandise manager refrigerator-freezer department, Westinghouse Electric Appliance Div.

W. J. Case, Jr.

In his new post, Case will be responsible for developing and carrying out sales training programs on the company's line of refrigerators and freezers for Westinghouse's distributor and retail salesmen.

He will report to Erdmann.

Case has been associated with Westinghouse since June 1952 when he joined the company's graduate student training program.

In February, 1953, he was assigned to the Electric Appliance Div. in Mansfield and was named a sales assistant in the refrigerator-freezer department. He held this position prior to his present appointment, according to the firm's announcement.

Move in Front with Mouldings by...
JOHN LEES
MOULDINGS, STAMPINGS, ASSEMBLIES. Complete Facilities for Buffing, Electrolytic Polishing, Welding, Forming and Aluminum Anodizing.
Functional and decorative mouldings by JOHN LEES will give your product that extra eye appeal which makes it stand out wherever it is displayed. That means more sales. Let us supply you with standard mouldings or manufacture to your specifications. Recommendations furnished without obligation. Write for catalog.
JOHN LEES
DIVISION of THE SERRICK CORPORATION
Kilgore Avenue, Muncie, Indiana, U.S.A.

13 million looked . . . and 8 million stopped to read

The glamour girl of the twenties is still a traffic-stopper today. For example: In the six million homes that get PARADE every week with their Sunday paper, more than 8 readers in 10 stopped to read the story of fashion through the years that went with this picture.

Readership like this, in 45 key markets throughout the country, makes PARADE the best read publication in print, according to independent surveys. That means advertisers get twice as many readers per dollar of ad cost in PARADE as in any of the Big Three weekday magazines. What's more, PARADE's power every Sunday makes sales every day, all week long.

PARADE . . . The Sunday Magazine section of 45 fine newspapers in 45 major markets . . . with more than 13 million constant readers.

"Haco Load Tester" for room air conditioners.

'Haco Load Tester' Designed for Room Units

CLEVELAND — Heights Air Conditioning Co. here announced recently that it is now in production on its newly-developed model No. 102 "Haco Load Tester" for room air conditioners.

This is a portable testing instrument for quickly determining electrical circuit voltage adequacy for ⅓, ½, and ¾-hp. room air conditioners in 115-volt ratings, without the necessity of first installing an air conditioner.

By use of the instrument, the exact operating voltage that would be existent if the proposed unit were installed can be determined, according to B. J. Bauer, president of the company.

He said the tester "predetermines the voltage drop on the particular circuit that would be used for the operation of the unit. If it is found that the voltage drop is in excess of 10% of the rated name plate voltage (115 V.) then it becomes necessary to have a separate or new circuit installed to assure satisfactory electrical performance of the unit."

Measuring 6 in. by 9½ in. by 4 in., the tester is constructed of #18 gauge steel. The case is finished in a baked enamel blue-gray color. The tester has an "easy-grip" handle and 4½-ft. cord and plug.

Dealer and contractor net price of the instrument is $34.80. It can be ordered through room air conditioner distributors.

Pointing out that low voltages in many residences and buildings is a major problem today, the company said use of its tester will eliminate the possibility of customer dissatisfaction, possible unit removal, and loss of sale due to an excessive voltage drop at the receptacle.

Also, the manufacturer stated, "by using the Haco Load Tester to ascertain voltage drop the dealer will in part assure himself against the possibility of a hazardous overloaded circuit."

Lou White Opens 2 Stores Featuring Room Units

HOUSTON, Texas—Lou White Stores, Inc., featuring nationally known room air conditioners, held its grand opening April 10. The company has its Houston store at 1412 Jefferson St. and its Pasadena, Texas store at 1601 Richey St.

Fresh'nd-Aire Enters Commercial Field; Power Heads Contract Sales

CHICAGO—Formation of a new contract sales division to promote the sale of "Fresh'nd-Aire" air conditioners to the commercial and institutional field was announced recently by J. W. Alsdorf, president of Cory Corp.

F. C. Power

Frank C. Power has been named sales manager of the division with headquarters in Chicago. He will handle a special line of pushbutton air conditioners designed specifically for hotel, motel, commercial, and institutional use. Models are available in ½, ¾, and 1-ton capacities.

Power was Chicago branch sales manager for Necchi Sewing Machine Sales Corp. before taking his new post. He had also worked for Necchi in southern California where he had been previously San Diego resident manager for Harry L. Shane, Inc. and a sales representative for Gough Industries, Los Angeles appliance distributor.

Robert TenEyck will work with Power as a field sales specialist, Alsdorf said.

ROOM AIR CONDITIONERS

Medical Research Shows No Unfavorable Reaction When Persons with Abnormalities Undergo Sudden Temperature Variations

CHICAGO — There is definitely no unfavorable reaction when people with abnormalities in regulation of body temperature undergo sudden climatic variation, a research project sponsored by the American Society of Heating and Ventilating Engineers and the United States Public Health Service in cooperation with the University of Illinois college of medicine here has indicated.

Tests on human reactions to rapid climatic change, using normal and physically abnormal patients were made by the researchers.

Young healthy women, nurses from the Research and Educational hospitals, acted as controls for this study. Other subjects were selected from the medical services of the hospital.

The ages of subjects ranged from 18 to 61 years. Height varied between 60½ and 71 in. Weight started at 104 and ended at 354 lbs.

All subjects were dressed in ankle and wrist length knitted union suits of 90% cotton, 10% wool, each suit fitted with 19 thermocouples for observation of skin temperature.

The scientists placed subjects in a steady comfort environment, 76° F. plus, and 30 plus 2% r.h., to determine heat loss rates. They remained seated in this room for three hours.

Deviations upon sudden change in temperature and relative humidity were discovered by use of a hot, humid room, 98.5° F. and a 66% r.h. Subjects left the comfort room after one hour, were immediately taken to the hot room for one hour, then back to comfort for another hour.

The only definite variance in the steady-state comfort test was that hyperthyroids had persistently higher mean skin temperatures than normal women. Their heat loss by evaporation was also greater.

On entering the hot room, warming of the skin of all subjects was prompt, hyperthyroids having the most rapid rise to the high level of perspiration. Normal women required longer to begin perspiration, the obese and hyperthyroids began immediately. Hypothyroids perspired least.

The experiments proved: Hyperthyroids' high heat production is balanced by its high loss through evaporation. Obesity does not interfere with heat loss in environments comfortable to young, healthy women.

Variance in temperature, heat loss, and perspiration ability between normal and physically abnormal women was so slight that within one hour in the comfort room all subjects reported similar thermal comfort sensations. Abrupt change from hot to comfortable and back again caused no shock sensation detrimental to the health of any subject.

A more detailed report on the tests will be presented at the 1954 semiannual meeting of ASHVE at Swampscott, Mass. on June 28.

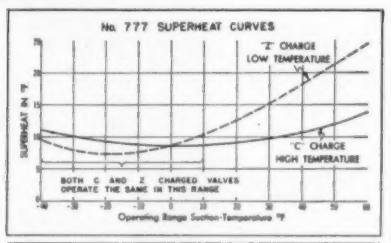
The authors are Tohru Inouye, B.S., research assistant; Ford K. Hick, M.D., professor of medicine; Robert W. Keeton, M.D., former head of the department of medicine and professor of medicine emeritus; and Lionel Bernstein, M.D., research associate, department of medicine, University of Illinois. They are the men who conducted the tests.

Here are three D's to keep in mind whenever you buy expansion valves—**D**etroit **D**ouble **D**uty Valves! Yes, Detroit expansion valves give you double-duty or dual purpose performance because they're designed for either high or low temperature applications. Take a look at the illustrated superheat curves of Detroit 777 and 673 expansion valves and note that both high and low temperature valves give the same excellent performance in the low temperature range. This can be a real time saver to you in an emergency. Specify **D**etroit **D**ouble **D**uty Expansion Valves!

NOTE: High temperature valve used for low temperature work may require that the suction line be throttled during pull-down.

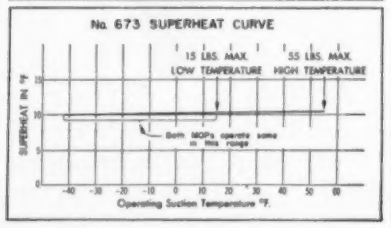
No. 777

- Capacities—1/8 to 2 tons Freon-12—Standard Valve; 1 to 3 tons Freon-12—External Equalizer.
- "C" and "Z" cross charges available.
- Accessible and easy superheat adjustment.
- Available with or without external equalizer.


No. 777 SUPERHEAT CURVES
"Z" CHARGE LOW TEMPERATURE
"C" CHARGE HIGH TEMPERATURE
BOTH C AND Z CHARGED VALVES OPERATE THE SAME IN THIS RANGE
SUPERHEAT IN °F
Operating Range Suction-Temperature °F

No. 673

- Capacities—1.2 to 3.6 tons Freon-12.
- Adjustable superheat.
- Gas charged for motor overload protection and quick response.
- Duraflex bellows resist corrosion and insure long, trouble-free service.



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Division of AMERICAN RADIATOR & STANDARD SANITARY Corporation
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AIR CONDITIONING • DOMESTIC HEATING • AVIATION • TRANSPORTATION • HOME APPLIANCES • INDUSTRIAL USES
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AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS • SUNBEAM AIR CONDITIONERS

LARKIN means quality • LARKIN WALL HUMI-TEMP

Quality speaks a language everybody understands. Wholesalers, dealers, and users alike know that *Larkin* means quality — of workmanship, materials and performance.

Manufacturers of the original Cross-Fin Coil • Humi-Temp Units • Frost-O-Trol Hot Gas Defroster • Evaporative Condensers • Cooling Towers • Air Conditioning Units and Coils • Direct Expansion Water Coolers • Heat Exchangers • Disseminator Pans.

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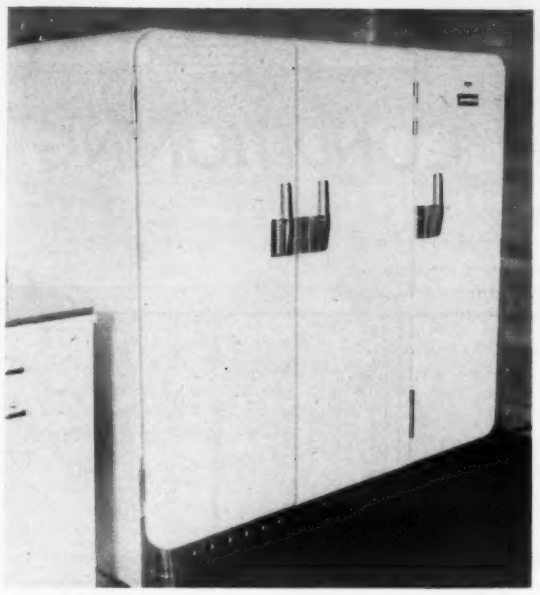
LARKIN COILS INC.
319 MEMORIAL DR., S.E. • ATLANTA, GA.

CONVERT YOUR PICK-UP

...TO A MODERN SERVICE TRUCK!

It's easy. It's quick—COSTS LESS THAN YOU THINK. Craftsman Side Boxes give you "carrying space" for Supplies, Tools, Parts, Equipment. Anyone can mount them in an hour or two. FIT ALL PICK-UP TRUCKS—BUILT TO OUTLAST YOUR TRUCK. Available with Pipe Carrier Brackets, Ladder Racks, etc.

STAHL Metal Products, Inc., 3490 West 140th St., Cleveland 11, Ohio



INSTALLED SNUGLY into corners and between storage cabinets to preserve valuable floor space, each of the 18 Frigidaire commercial-type reach-in refrigerators was purchased to serve a specific purpose in the 300-bed hospital in St. Cloud, Minn. The seven ice cube makers were placed on each of the patients' floors, and have resulted in considerable savings over the former ice plant located in the basement.

12-hp. for 90-hp. Steam Plant

18 Reach-Ins, 7 Ice Cube Makers Replace Old Equipment In Community Hospital

ST. CLOUD, Minn.—Eighteen reach-in refrigerators, seven automatic ice cube makers, and four refrigeration compressors recently were sold to a 300-bed local hospital by Frigidaire dealer, Bob Pflepsen.

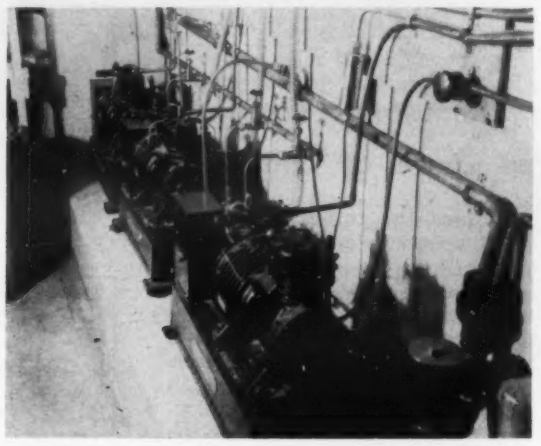
One of the big reasons the hospital administrator selected this equipment, despite lower competitive bids, was because of the dealer's excellent service reputation. The economy savings story was also a big factor in closing the order, it was indicated.

The equivalent of 12 hp. of refrigeration now replaces the 90-hp. steam engine, compressors, and circulating pump formerly used to cool the walk-in refrigerators and reach-in equipment.

H. J. Schneider, hospital engineer, says, "Already we are saving the equivalent of half a ton of coal a day as a result of the change-over to the new Frigidaire equipment." The savings would even be greater during the summer because the coal-fed furnace can now be turned off during the summer, as it is not needed to create power for the refrigeration equipment.

The modern new reach-in refrigerators are placed on all floors of the hospital, as well as five in the kitchen.

The new ice cube makers were placed on each of the patients' floors and have shown savings over the former ice plant that was located in the basement of the hospital. Actually, half the ice made in the bulk plant was melted before it ever got into the patient's room.



SHOWN HERE ARE some of the sealed compressors that provide a total of 12 hp. of connected refrigeration capacity, replacing a 90-hp. steam system. In this neat installation by Frigidaire Dealer Bob Pflepsen there are no hanging wires, tags, or refuse on the floor to mar the appearance of the equipment room of the hospital.

Fraser To Head Board of Brunner Corp. of Canada

TORONTO, Ont., Can.—Brunner Corp. of Canada has announced the election of A. Harold Fraser as chairman of the board.

The firm also has elected Ralph Long as general manager, Fred Murray as works manager, and Miss G. M. Parke as office manager.

The company makes a complete line of air conpressors, refrigeration units, and air conditioning equipment.

Restaurant & Bar Equipment

New Bottle Vender Is Being Marketed By F. L. Jacobs Co.

DETROIT — A new automatic vending machine for bottled soft drinks is being manufactured by F. L. Jacobs Co., according to Thomas J. Riggs, Jr., president.

The initial order from Pepsi-Cola Bottling Co., of New York City, is being filled by Jacobs Parts Mfg. Div. at Traverse City, Mich.

The machine is cooled by a Blissfield refrigeration unit, utilizing a Tecumseh compressor. It holds 56 8-oz. bottles in the vending compartment, and 37 in the pre-cool compartment.

Exterior is in two shades of blue, with chrome trim and hardware. A back-lighted, circular, translucent plastic replica of the familiar Pepsi-Cola bottle top decorates the face of the coin-operated machine. Over-all measurements are 61 in. high, 27 in. wide, and 23 in. deep.

A major automotive industry supplier, the Jacobs organization is expanding its non-automotive lines. It has recently undertaken a diversification program to make the company less dependent upon any one particular industry, according to the announcement by Riggs.

We are highly enthused about this phase of our business," he said. "Vending machines have been an important method of marketing consumer products for a number of years, but actually the surface has hardly been scratched. Since the early coin-operated machines that sold cigarettes and candy bars, we have come a long way. Today you will find everything from air-travel insurance policies to hot coffee coming automatically from these silent but very effective salesmen."

F. L. Jacobs Co. operates eight plants in Michigan and Illinois.

Key to WATER COOLER - ICE MAKER SALES . . .

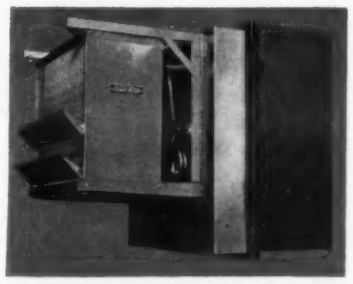
FILTRINE "Taste-Master" PURIFIER

Stop service calls . . . keep out rust and sludge . . . open new doors to sales acceptance!—with coolers, ice-makers, sell "Taste-Master"!—checks chlorine, traps sediment; promotes service-free satisfaction with all water processing appliances. Write—

Filtrine MANUFACTURING CO. BROOKLYN 38 • N. Y.
"Water Coolers and Filters for 40 Years"

NEW KOOL-RITE FREEZER UNIT CUTS INSTALLATION COSTS

Kool-Rite development of Reverse Cycle



Kool-Rite Model FX

Automatic hot gas defrost, trouble-free performance and low cost are features of a new low-temperature package refrigeration unit manufactured by Kool-Rite Co., Roberts, Wisconsin. This unit has high and low side (complete with evaporator and compressor) mounted on a single panel for ease of installation.

Recently presented to the public, many buyers and manufacturers of walk-in freezers are now specifying Kool-Rite units for all low-temperature applications.

Kool-Rite freezer units are designed for applications requiring temperatures from -20° F. to 32° F. in any walk-in freezer made today. Reverse Cycle system provides comparatively frost-free operation. The unit will operate efficiently in surrounding temperatures as low as 20° F. This Kool-Rite development permits use of space formerly impracticable because of below normal room temperatures.

Completely automatic, Kool-Rite low-temperature systems defrost 4 to 8 times per day to give peak performance at a savings. Average defrost cycle is about 8 minutes, but can be adjusted to meet unusual requirements. Completely self-contained in one simple unit, Kool-Rite systems are easy to service.

For complete information without obligation, write today to Kool-Rite, Erickson Industries, Inc., Roberts, Wisconsin.

FIRST with all the best features!

ONLY THE COMPLETELY NEW Model B-200 Crystal Tips or Chips AUTOMATIC ICE MAKER GIVES YOU ALL IN ONE!

		OTHER ICE MAKERS					
		A	B	C	D	E	F
2-in-1 (Cube or Crushed Size Ice)	YES	No	Yes	No	No	No	No
24-hour Storage Bin Capacity	YES	No	Yes	No	No	No	No
Cubes Individually Frozen	YES	Yes	No	No	Yes	No	Yes
Large (Over 6/10 oz. size cubes)	YES	Yes	No	No	Yes	No	Yes
Location Convenience (under-counter design)	YES	Yes	No	Yes	Yes	Yes	Yes
Compactness (less than 6 sq. ft. floor space)	YES	No	Yes	No	Yes	No	Yes

Compare and you'll find there's nothing on the market to equal the all-new 2-in-1 Crystal Tips or Chips Ice Maker. For versatility, convenience, economy, simplicity and attractive design, the Model B-200 is in a class all by itself. Simple to install—air cooled, just plug in, uses ¼" supply and minimum drain. Every business and institution that is a user of ice is a prospect for the complete ice service this unit offers.

Investigate the profit possibilities for you. CRYSTAL TIPS has a future—why not share in it?

AMERICAN AUTOMATIC ICE MACHINE CO.
1787 FOURTH STREET N. W. FARIBAULT, MINN.
A Subsidiary of McQuay, Inc., Manufacturers of Heat Transfer Equipment Since 1923

Unit on Turntable Heats or Cools

25-Ton Heat Pump for Chicago Industrial Laboratory Grew out of Explanation Given Owner by Contractor

CHICAGO — Fascinated by the idea of the heat pump, A. J. Henke, president of American Electric Fusion Corp., has had a 25-ton air-to-air system installed in the company's new laboratory building for winter heating and summer cooling.

The system is unique in that it is not a "reverse cycle" job. No change essentially is made in the flow of refrigerant or air when switching from heating to cooling, or vice-versa.

Instead, the condensing unit, evaporator, condenser, and all other components of the refrigerant circuit are installed on a large turntable suspended from the roof. To change from cooling to heating, the turntable is revolved 180° by hand. This brings the condenser into the position the evaporator occupied for cooling, and the warm air from the condenser is then delivered to the conditioned space.

Idea for the turntable arrangement developed in a discussion between Henke and Joseph Lazar, head of Refrigeration Systems, Inc., Chicago contractor who installed the job, Lazar recalls.

"Curious about the heat pump and its many advantages, Henke asked me how it worked," Lazar said. "I explained that the principle was the same as that of a household refrigerator, where the heat picked up in the evaporator is dissipated through the condenser. 'If we just turned this system around,' I said, 'and put the condensing unit inside the refrigerator and the evaporator outside, you would heat the inside of the refrigerator.'

"The idea of 'turning the system around' appealed to Henke, so that was how the turntable arrangement was conceived."

RETURN air intakes around outer walls connect to 12-in. tile pipe. Here Joseph Lazar, who devised and installed heat pump system, adjusts intake damper.

As a heat pump, the system has considerable capacity, but Lazar points out there is a fair amount of heat-producing machinery in the laboratory. American Electric Fusion manufactures production welding machinery. New developments are always under test in the laboratory. These machines produce heat and thus reduce the load on the heat pump during the winter.

As a summer cooling system, the heat pump counteracts the heavy sensible heat load indoors produced by the machines as well as the outdoor load.

The turntable arrangement also offers advantages in designing the system, Lazar points out. The evaporator performs the same function in winter and summer, as does the condenser.

"This way we can design the condenser as a condenser and the evaporator as an evaporator, avoiding the compromises necessary when the function of a coil changes from season to season," he explains.

The turntable is made of steel and measures approximately 10 ft. in diameter. An insulated partition divides the turntable into two equal sections. On one side is a 25-ton Westinghouse "Freon-22" six-cylinder compressor, an Acme liquid receiver (10¾ in. by 60 in.), an Acme liquid-suction line heat exchanger, and two Rempe coils which serve as the condenser.

"By placing the compressor on the same side of the turntable as the condenser we gain also the advantage of the heat created by the motor and compressor during winter heating," Lazar adds.

Main condenser is a four-row coil. Directly in front of it is a one-row coil which Lazar has dubbed a "miser" coil. This is piped in series after the condenser. Temperature of the refrigerant off the condenser runs 80° to 90° and thus lets the "miser" coil preheat the outdoor air before the air passes through the condenser coil.

Other side of the turntable holds the evaporator. Although this is a 25-ton system, two separate 25-ton evaporators are employed. During summer cooling only one evaporator is in operation. During the winter heating cycle both evaporators are cut into the circuit to achieve maximum efficiency in extracting heat from the outdoor air.

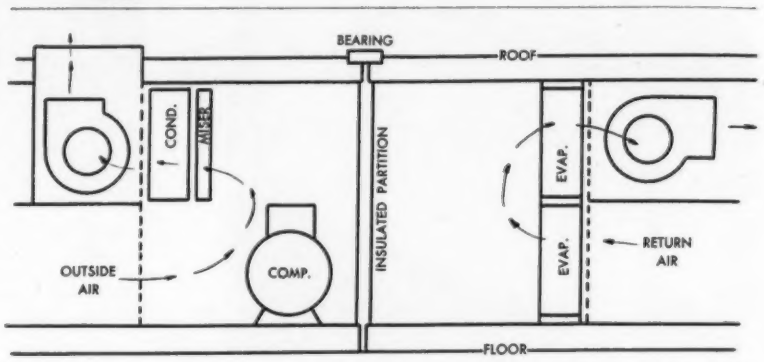
Control of heating capacity of the system during mild spring and fall days is accomplished by first unloading the compressor to 50% capacity and then, if required, by shutting one of the two fans blowing across the evaporator coils.

These unloading operations are actuated by a high pressure control.

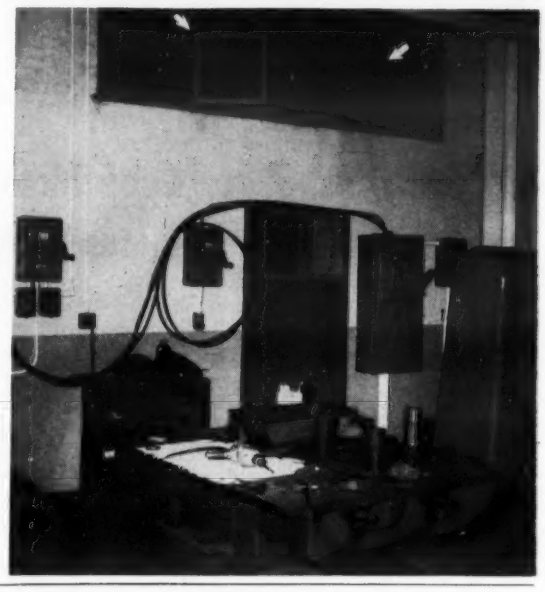
Outdoor air is brought into the system through a short duct on one side of the machinery room. Air is discharged through the roof.

No ductwork is employed to deliver the heated or cooled air to the working space of the laboratory, which is an L-shaped structure. The heat pump is located in the inside corner where the two "legs" of the L meet. The conditioned air is discharged into the structure at this point under pressure and blankets the building.

Return air is brought back to the heat pump through (1) a large grille directly below the supply air outlets, and (2) several return air intakes located in the floor around the periphery of the building. These intakes have adjustable dampers and connect to the machinery room via 12-in. tile laid beneath the floor.



HEAT PUMP on turntable switches from cooling to heating by revolving, thus changing locations of condenser and evaporator. Flow of air and refrigerant do not change.



AIR from heat pump is discharged into conditioned space of American Electric Fusion laboratory through two grilles (arrows). Directly below are return air intakes.

Never before have so many desirable characteristics been built into a motor at so low a price to you!

FIRST: The new design Marco Permanent Split Capacitor Motors give you all the advantages you've enjoyed in Marco Shaded Pole Motors — absence of any troublesome moving parts, switches or relays — provision for 1, 2 or 3 speeds in windings or speed control by external rheostat — the famous Marco dependability and long life.

PLUS: (1) vertical, horizontal or inclined mounting, due to extra-large bearing surfaces, Nylon thrust surfaces and improved oil recirculation system; (2) Quietness far beyond the famous "Hushed" Marco shaded pole motors; and (3) most important, equipment can be designed for lower running current to meet the proposed National Electrical Code (for window air conditioners) in 1/20 to 1/3 H.P. motors.

FINALLY: This higher electrical efficiency and power factor means: (1) lower power consumption; (2) reduced external wiring requirements; and (3) cooler operation.

TYPICAL PERFORMANCE COMPARISON		
	Permanent Split Cap.	Shaded Pole
H.P.	1/12	1/12
R.P.M.	1050	1050
Volts	115	115
Amps.	1.20	3.50
Watts	121	204
Eff.	51.2	30.4
P.F.	87.8	50.8
App. Eff.	45.0	15.4

WRITE TODAY FOR COMPLETE DATA.

MARCO INDUSTRIES, Inc.

790 Terrace Blvd. • Depew, New York

Quality Motors "tailored" to your product at ready-made prices.

ROTARY SEAL

Replacement Units

Available in a wide size range for Commercial, Semi-Commercial, Air Conditioning and Home Refrigerators.

EASY TO INSTALL ★ ECONOMICAL

THE mechanical seals for ROTARY SEAL COMPANY rotating shafts

AT ALL LEADING JOBBERS

2026 NORTH LARRABEE STREET
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CLEAN ALL TYPES WATER COOLING EQUIPMENT

QUICKLY . . . EASILY . . . SAFELY . . . with

Vapco

Cleaning and water conditioning products. Remove and prevent scale, rust, corrosion, algae and slime. Tested and proven. NEW, DIFFERENT, PROFITABLE Sold by leading refrigeration and air conditioning wholesalers.

MANUFACTURERS' REPRESENTATIVES:

Some territories still available. Write today.

GARMAN CO., INC.
1253 GROVER
ST. LOUIS 23, MISSOURI

Plastics Conference June 7-10 To Touch on Use In Refrigeration

CLEVELAND — Experts from the refrigeration and air conditioning industry and three other major industries have been selected to review applications and discuss the future of plastics in their fields at the Annual Plastics Conference that will run concurrently with the 1954 National Plastics Exposition.

The exposition, sponsored by the Society of the Plastics Industry, Inc., will be held June 7-10 at the Public Auditorium here. Conference meetings will be morning sessions; the exposition will open at 1 o'clock in the afternoon.

The forum on refrigeration and air conditioning applications of plastics is scheduled to start at 9:30 a.m. Wednesday, June 9, at the Hotel Statler, with O. H. Yoxsimer of Westinghouse Electric Corp. presiding. Speakers and their subjects will be:

J. R. Hertzler, York Corp., "Refrigeration and Air Conditioning Applications of Plastics"; R. E. Wallenbrock, International Harvester Co., "Domestic Refrigeration Applications of Plastics"; E. T. Morton, Midwest Mfg. Co., "Potentialities of Plastics for Refrigerator Linings and Large-Area Parts."

In addition, a speaker yet to be announced will discuss "Trends In Molding and Formed Sheets for Door Liners, Freezer Chests, Crispers, Drip Trays, Shelves, and Accessories."

Following the talks there will be a panel discussion with questions and answers on the subject of formed sheets versus molded large-area parts.

Also planned are conference sessions pertaining to radio and television (Monday, June 7, Cleveland hotel), rubber (Tuesday, Cleveland hotel), and automobiles (Thursday, Hotel Statler). An additional feature is a review of new plastic materials, to be presented Tuesday at the Cleveland hotel by members of the plastics industry.

Other events scheduled for Tuesday are a luncheon, the annual meeting of SPI, and, in the evening at the Cleveland Auditorium, a reception and buffet dinner followed by a special program by the Cleveland Pops Orchestra, Andre Kostalanetz conducting.

Some 12,000 visitors from all phases of industry, business, retailing, and government are expected to see the new developments of over 160 companies at the exposition and to attend the conference.

Climate Control, Inc. Formed

MONROE, La.—Charter of incorporation has been granted Climate Controls, Inc., air conditioning and heating, listing capital stock of $25,000.

INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

turbed article was published, in AIR CONDITIONING & REFRIGERATION NEWS, a prolonged "hot spell" melted away inventories of room coolers. And we were kidded about being an alarmist.

Here's hoping our reverse luck will hold still for 1954. Once again it appears that inventories of room coolers are alarmingly high. ARI figures reveal that more than 600,000 window units are in stock at the *wholesale* level as of this moment.

And our field reporters tell us that retail movement of packaged air conditioners is saddeningly slow. In the Southwest, perennially the best market, already dealers are unloading at cut prices.

A real good hot spell *right away* could take the air conditioner industry "off the hook."

Let's pray for a scorcher.

Philosophy of the Week

Perfection is a trifle dull. It is not the least of life's ironies that this, which we all aim at, is better not quite achieved. — SOMERSET MAUGHAM.

"There is something about success that even your best friend dislikes."—MARK TWAIN.

The great enemy of the moral life is the minor virtues.—JAMES BAILLIE. "Reflections on Life and Religion."

"To the man who's never heard of you, you don't exist."—JAMES J. NANCE, President, Packard Motor Car Co.

To live and to live gloriously as much of the time as possible—that is the thing. Comradeship, culture, adventure, and romance share in living—as well as bread—to satisfy hunger of the living spirit and to give enduring security.—*Voice of Youth.*

Men save money in order to buy life. Since life is what they are spending they should make sure that that is what they get.—BERNARD DE VOTO.

Practical Advice

To avoid parking tickets for leaving your car in forbidden zones, stick this printed card under a windshield wiper:

"Government Property. All traffic tickets must be notarized with seven carbon copies and bear an autographed photograph of the officer registering the complaint."

If you make the mistake of comparing yourself habitually with the few distinguished individuals in your college class, your profession, or your generation, your life will seem unendurably insignificant and your self-esteem will drop to zero. But if you are wise enough to compare yourself only with the individuals whose life bears some reasonable resemblance to your own, then you will maintain within yourself enough assurance to keep going. — REV. JAS. GORDON GILKEY.

Note to Women Readers

Girls who don't diet are much easier to live with than aggressively thin females, most men will agree.

"Science" now corroborates this premise.

Most pleasant female companions are those who weigh between 132 and 156, a panel of medical and psychiatrical experts report in the *Detroit Free Press.*

"They are neither too fat nor too thin. Just wonderful armfuls," continues their report. "Thin females are too easily irritated, and are inclined to toss nasty and sarcastic remarks about their husbands."

Amen, Brother

Quoted from *It's Said and Done:*

"We're an old fondler and handler of short words, having been stringing them together for several decades. The nice part about short words is that they're easy to look up in case their meaning is not clear. The bad part about them is that they are often misused. At best it is no cinch to string any words together so that they always say what you mean them to say. Often they say what the reader means (or wants) them to say.

"We use an old dictionary (1930) on the theory that the words therein are easy for anybody to hunt up because most people have a dictionary at least that old. We want as many people as possible to know what we're trying to say even if they discover it wasn't worth the trouble after glancing through the text.

"One thing that makes us hopscotch, dang-flummerghasted mad is the way people today with mads on dig up old chestnuts like 'book-burning' and 'witch hunt' when in reality there has been for years a harmless and well-known practice of people burning up old books they don't want, and of publishers and printers with worthless, left-over stocks getting them dumped on a pile and ignited. None of these people were indicted for 'book-burning' because it's been going on for years.

"Our old Aunt Julia used to hunt witches continually, particularly after Blackberry Wine Season, but she never found one. Lots of people still look under their beds at night for witches, or reasonable facsimiles thereof. We never go in a dark attic or cellar that we don't sub-consciously think an old witch might be lurking behind the shadows.

"We're not working up to anybody's pet-hate (or favorite) politician. We just don't like to have words used so loosely, and the study of semantics (the meanings of words) would do these unimaginative scare-phrase creators good.

"Not long ago Mr. Vishinsky shook his fist in the United Nations and said something about the American people thinking they were a Master Race, or meaningless words to that effect. There you have an example: 'master race.' Go up to anybody on the street and say: 'Oh—so you think you are a member of a master race!' There's no sense to it, but it has an inflaming quality—like 'book-burning' and 'witch-hunting.'

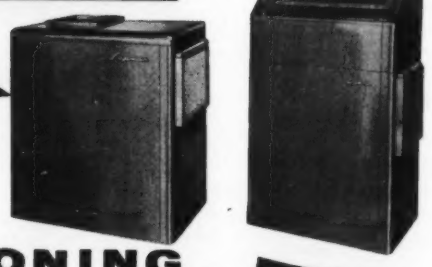
"We'll loan our 1930 dictionary to all users of meaningless and poorly chosen words, who should have cliche poisoning by now, and as a constructive suggestion they might call people 'Biblioclasmists'—which, our 1930 dictionary says, means 'destroyers of books'— or Crone-Stalking—a little combo we just made up. Doesn't sound half as childish as 'Witch-Hunting' does!

"Or . . . we could insist that these careless phrase-turners be compelled to illustrate just what they mean. It might be very helpful.

The ORIGINAL Air Conditioner with the CONVERTIBLE feature

PLENUM TOP FOR COMMERCIAL USE

DUCT TOP FOR HOMES



Lipman AIR CONDITIONING

Here's the answer to air conditioning sales . . . the Lipman "Convertible" . . . only the top is changed! Yes, use a plenum top for commercial jobs, a duct top for home installations. You stock only the basic unit and the two tops for lower inventory! Write Lipman Division of Yates-American, Beloit, Wis., for complete specifications and capacities.

TERRITORIES AVAILABLE!

WRITE TODAY!

LIPMAN REFRIGERATION
Division of YATES-AMERICAN

Gentlemen: I am interested in selling Lipman Air Conditioning. Please send information.

FIRM NAME_____

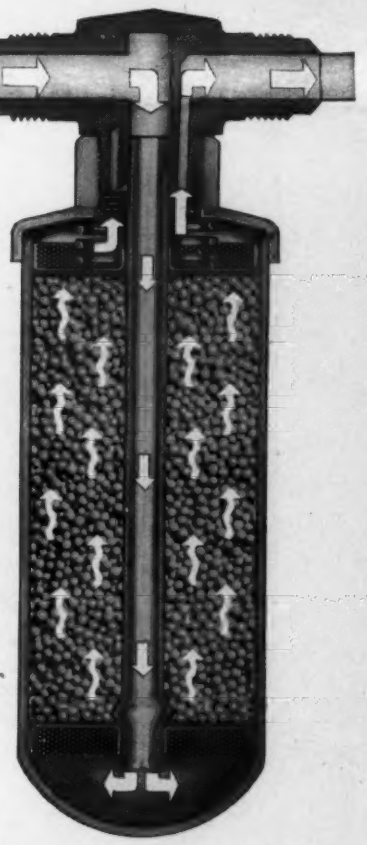
INDIVIDUAL_____

ADDRESS_____

CITY_____ STATE_____

stop acid here

ACID causes refrigeration system breakdown!



WITH DOUBLE-DUTY

AN•DRITE

(ANSUL-TREATED 100% ACTIVATED ALUMINA)

NEW T-FLO DESIGN "SCREWS IN LIKE A LIGHT BULB!"

Activated alumina in pellet form makes Ansul's new Andrite the double-duty desiccant. Its thousands of fast drying surfaces dry deeper—pulling moisture content way down. But even more important, Andrite removes acid, cleans up the chemical condition that causes sludge and corrosion—the major cause of refrigeration system breakdowns.

Designed for the revolutionary Ansul T-Flo Drier, Andrite won't break down or dissolve to plug filters or damage compressors. And the drier is easy to install, too. Even replacement of the drier cartridge saves time, because it screws in like a light bulb. And no tools are needed. For fewer call-backs, speedier servicing, change to Ansul. And be sure to give new equipment double protection in acid and moisture removal. Use Ansul T-Flo Driers with Andrite.

For more information or answers to your refrigeration problems write to: Ansul Chemical Company, Refrigeration Division, Dept. D-3, Marinette, Wisconsin.

DuPont "Freon," non-foaming oils, sulfur dioxide, methy chloride

ANSUL

Detroit Commercial Sales

Refrigeration Contractors Installed 1,436 Condensing Units In 1953; 129 Firms Make Installations In 920 Establishments

DETROIT — Refrigeration contractors in Detroit installed 1,436 condensing units for commercial refrigeration applications during 1953.

This data was compiled by AIR CONDITIONING & REFRIGERATION NEWS in a study of installation permits issued by the city's Department of Buildings and Safety Engineering.

Data Does Not Cover Metropolitan Area

The figures do not cover the entire metropolitan area of Detroit because the permits in question cover only jobs within the City of Detroit proper. Data is not available for the suburban communities and areas.

Data presented in the accompanying tables analyzes the sales by size and by month for 1953, compares the sales for the past four years by size, by make for the past three years, shows where the units were installed in 1952 and 1953, and compares installations by contractors.

The 1953 total of 1,436 condensing units is down somewhat from the 1952 total of 1,534 units. In fact, the trend has been slightly downward from the all-time peak of 2,086 which was reached in 1949.

Tabulation of sales by size for the past four years (1950 through 1953) shows that the ½-hp. unit was the leader in 1953 with 265. Close behind was the ¾-hp. machine with 235, while the 1-hp. size totaled 229 units. There were 182 2-hp. units installed, 167 ⅓ hp., 148 1½ hp., 101 3 hp., and 51 5-hp. units.

A total of 58 machines larger than 5 hp. were installed in Detroit last year. Included were 20 7½-hp. machines, four 10's, 13 15's, five 20's, three 25's, six 30's, one 40, four 50's, one 60, and one 100-hp. job.

December Biggest Month with 168 Units

In terms of sales by month, biggest month in 1953 was December when permits were taken out for 168 machines. Next highest month was May with 158 machines, while November was third with 140.

At least 100 machines were installed in 10 months of 1953. Only in January with 94 and April with 91 did the figure fall below the 100 mark. This is in contrast with the previous year when sales in the months of June fell to 95, to 81 in September, and to 75 in December.

Generally, sales got off to a slower start in 1953 than in 1952. The accompanying table shows that installations in the first four months in 1953 ran 94, 108, 109, and 91, respectively. Figures for the corresponding first four months in 1952 were 106, 125, 131, and 205.

Make 'A' Has Led For Past 3 Years

The table analyzing sales of condensing units by make indicates that make "A" has led the list for all three years given in the table, and further, that "A" seemed to be pulling away from the second and third place position holders.

Installations of make "A" totalled 271 in 1953, compared with 251 in 1952, and 302 in 1951. Both "B" and "C," however, are far off from 1952 installations. In 1953 there were 169 units of make "B" compared with 216 in 1952. "C" in 1953 had 146 units compared with 227 in 1952. This indicates that "C" had run a close second in 1952.

Certain other makes chalked up gains in 1953 over the previous year, or held their own. For example, "E" went from 88 to 108 in 1953, "G" from 79 to 85; "H" from 12 to 74, "P" from 2 to 13; and "S" from 1 to 10. "J" was 60 in 1952, 57 in 1953; "L" had 43 and 42; "M" had 38 both years.

Detroit's 1953 commercial refrigeration installations were also broken down by contractor. This table shows that the 1,436 units were installed by 129 different contractors; the same number listed for the previous year.

The leading contractor, it might also be noted, installed almost exactly the same percentage of units in 1953 as in 1952. In 1953 contractor "A" put in 134 units to account for 9.3% of the total. In the preceding year "A" put in 144 units for 9.4% of the total. Two different contracting firms are involved here, however, although it is interesting to note that the top two firms, "A" and "B," alternated in leading the list for these two years. The firm that held the rank of "A" in 1952 is "B" in 1953, and vice-versa.

Contractor "B" in 1953 installed 120 units or 8.4% of the total. In third place is "C" with 83 units (5.8%), followed by "D" with 62 units, "E" with 56, and "F" with 54.

At the other end of the list we find five who installed six units each, six with five each, 12 with four each, 13 with three each, 14 with two each, and 35 with one each.

A comparison of the contractors listed in the 1953 tabulation shows that once again the pattern of "10% of the firms do 50% of the

(Concluded on next page)

STATISTICS

1953 Detroit Commercial Installations by Size by Month

Month	⅓-hp.	½	¾	1	1½	2	3	5	Over 5*	Total
January	17	25	24	4	8	10	5	0	1	94
February	17	21	20	16	9	9	11	1	4	108
March	19	20	19	17	11	11	6	2	4	109
April	15	19	12	17	8	3	4	3	10	91
May	17	31	19	19	18	39	9	3	3	158
June	15	21	23	17	14	5	6	1	7	109
July	8	27	25	15	8	8	8	4	2	105
August	16	13	18	19	6	14	9	7	5	107
September	7	11	16	23	11	25	17	11	3	124
October	9	16	16	19	15	19	5	11	13	123
November	18	32	21	24	18	14	6	3	4	140
December	9	29	22	39	22	25	15	5	2	168
Total	**167**	**265**	**235**	**229**	**148**	**182**	**101**	**51**	**58**	**1,436**

*Includes 20 7½-hp. machines, four 10's, 13 15's, five 20's, three 25's, six 30's, one 40, four 50's, one 60, one 100.

Sales for Past 4 Years Compared by Size

Size in Hp.	1950	1951	1952	1953
⅓	295	337	284	167
½	402	302	318	265
¾	369	320	275	235
1	343	323	240	229
1½	184	150	135	148
2	167	130	136	182
3	127	124	77	101
5	40	53	23	51
Over 5	55	57	46	58
Total	**1,982**	**1,796**	**1,534**	**1,436**

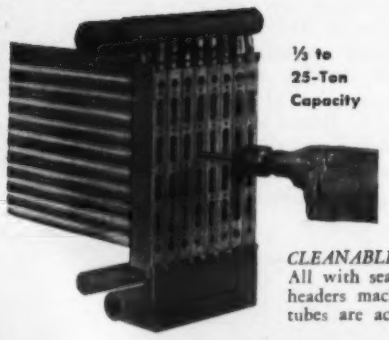
How Contractors Shared 1953 Installations

Contractor	No. Units	%
A	134	9.3
B	120	8.4
C	83	5.8
D	62	4.3
E	56	3.9
F	54	3.8
G	47	3.3
H	43	3.0
I	40	2.9
J	37	2.6
K	37	2.6
L	35	2.4
M	31	2.2
N	31	2.2
O	29	2.0
P	25	1.7
Q	22	1.5
R	22	1.5
S	20	1.4
T	18	1.3
U	17	1.2
V	17	1.2
W	16	1.1
X	16	1.1
Y	15	1.0
Z	13	.9
AA	13	.9
BB	13	.9
CC	13	.9
DD	12	.8
EE	12	.8
FF	12	.8
GG	11	.8
HH	11	.8
II	10	.7
JJ	10	.7
KK	10	.7
LL	10	.7
MM	9	.6
NN	9	.6
OO	9	.6
PP	8	.6
QQ	7	.5
RR	7	.5
5 installed 6 ea.	30	2.1
6 installed 5 ea.	30	2.1
12 installed 4 ea.	48	3.3
13 installed 3 ea.	39	2.7
14 installed 2 ea.	28	1.9
35 installed 1 ea.	35	2.4
Total 129	1,436	100.0

No. 1 Requirement—in any size unit

an HM CLEANABLE CONDENSER

Water-Cooled
Double Tube, Counter-flow



½ to 25-Ton Capacity

Regardless of whose condensing unit you buy—and regardless of its size—your first "*must*" is to insist that it have a CLEANABLE (*water-cooled*) condenser to help you maintain new-unit efficiency indefinitely. When you realize that use of a simple spiral tool, doing a thorough mechanical cleaning job, can always restore copper-water surfaces to their original heat-exchange efficiencies, you won't settle for anything less than a cleanable condenser. And especially so now since most major manufacturers recognize the demand for "*Cleanable*", and are equipping their units accordingly. Remember too, you can now count on surprisingly low initial cost that is made possible by Halstead & Mitchell's tremendous high productive capacity.

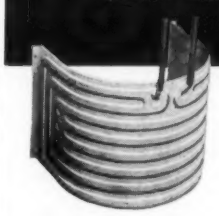
CLEANABLE—in all size capacities. All with seamless copper tubes, brass headers machined and brazed. Water tubes are accessible from either end.

HM Halstead & Mitchell

Wholesalers in Principal Cities—*Write for descriptive literature*

OFFICES: BESSEMER BUILDING • PITTSBURGH 22, PA.

Did you know you could get COLD PLATES like this?



MANY SHAPES
MANY SIZES
MANY METALS

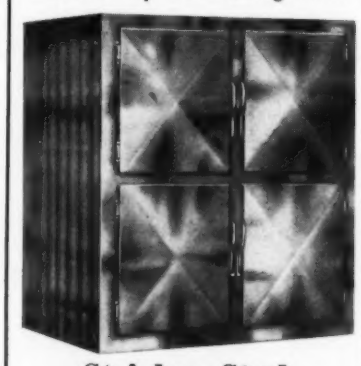
"JOB TAILORED" Dean Cold Plates are the answer to tough refrigeration problems. You can get Cylinders, U's, Angles, Tanks, etc., made *exactly* in the size you need.

WRITE FOR TECHNICAL DATA BOOK
Dept. AC

DEAN PRODUCTS, INC. STerling 9-5400

1042 DEAN STREET • BROOKLYN 38, N. Y.

"A Case of Cool Judgment"



Stainless Steel
DRINKMASTER MIX MODEL
#4D60 Holds 60 Gals. Mixt.
#4D80 Holds 80 Gals. Mixt.
Upper Part for Food Storage.
United Friguator Engrs.
Menominee, Mich.

Where Commercial Refrigeration Units Were Installed In Detroit In 1952 and 1953

Establishment	1952 No.	1952 Units	1953 No.	1953 Units
Apartment house	6	8	5	5
Bakery and bakery shop	37	40	37	42
Banana ripening	....	....	1	2
Beer store	22	25	16	18
Bottling plant	1	1	1	1
Bowling alley	2	4	....	....
Brewery	2	2	....	....
Cafeteria	5	9	....	....
Candy store	....	....	1	1
Caterer	3	6	3	3
Cemetery	1	1	1	1
Church	....	....	2	2
Clinic	....	....	2	2
Club	7	8	5	8
CO_2 charging system	2	2	....	....
Confectionery	6	6	10	12
Contractor	....	....	1	1
Convalescent home	1	1	1	1
Dairy	16	21	9	11
Dairy bar	26	41	1	1
Dairy distributor	....	....	1	1
Dance hall	1	5	....	....
Department store	9	14	1	1
Dime store	....	....	6	9
Drug manufacturer	4	6	7	24
Drugstore	12	21	16	23
Drug wholesaler	1	1	....	....
Egg producer	....	....	1	1
Factory	15	22	7	16
Fish market	4	5	3	3
Fish wholesaler	....	....	1	1
Florist	30	32	16	18
Food processing	1	2	2	3
Food store	499	746	437	786
Food wholesaler	8	14	2	2
Frog market	....	....	1	1
Fruit wholesaler	....	....	1	1
Fur vault	1	1	....	....
Gift shop	....	....	1	1
Greenhouse	1	1	....	....
Hall	5	8	....	....
Hospital	29	150	16	24
Hotel	5	24	9	17
Humane society	....	....	1	1
Ice cream stand	....	....	18	34
Ice cream store	....	....	4	5
Ice cream manufacturer	....	....	12	13
Ice plant	1	1	1	1
Ice rink	....	....	1	3
Ice vendor	3	3	8	8
Institution	....	....	2	3
Laboratory	1	3	2	4
Liquor store	....	....	1	2
Meat packer	9	12	9	9
Meat processor	....	....	1	3
Meat wholesaler	....	....	11	17
Newspaper	1	1	1	1
Nurses home	....	....	1	1
Office	3	4	1	1
Old age home	....	....	1	5
Poultry market	4	4	6	6
Poultry processing	....	....	2	2
Poultry wholesalers	....	....	3	4
Restaurant	109	125	98	122
Sausage distributor	....	....	1	1
Sausage manufacturer	2	2	3	3
School	1	2	1	1
Seed testing laboratory	....	....	2	2
Stadium	1	13	2	3
Storage	....	....	1	3
Store (unspecified)	1	1	6	7
Tavern	95	116	80	97
Telephone company	3	6	2	7
Theater	8	9	11	11
University	....	....	1	11
Utility office	1	2	1	1
Unknown	1	1	....	....
Warehouse	2	2	1	1
Total	**1,008**	**1,534**	**920**	**1,436**

Detroit Sales--

(Concluded from preceding page)

business" holds true. The 13 contractors, representing 10% of the 129 firms listed, installed a combined total of 54.5% of the units in 1953. In the preceding year 13 firms (10%) put in 49.5% of the total.

In 1951 the top 14 contractors (10.4% of the total) installed 50.8% of the units while in 1950 the top 14 contractors (10.2%) handled 51.4% of the total units that went in.

Last table analyzing the 1953 commercial refrigeration installations in Detroit shows where the units were installed. Here it is found that the 1,436 units were installed in 920 different establishments. Data is also given for 1952 installations, which indicates that the 1,534 units of that year went into 1,008 different establishments.

Food stores represented the biggest single class of buyers of refrigeration in 1953, as in previous years. Last year 786 units were installed in 437 stores, compared with 746 units installed in 499 stores during 1952.

This points to the oft-remarked increasing use of refrigeration in food stores.

Restaurants and taverns, as before, rank second and third in this listing. There were 122 units installed in 98 restaurants; 97 units installed in 80 taverns.

Other big buyers were bakeries (42 units in 37 places), beer stores (18 units in 16 places), drugstores (23 in 16), florists (18 in 16), hospitals (24 in 16), ice cream stands (34 in 18), and meat wholesalers (17 units in 11 establishments).

A broad variety of actual and potential users of commercial refrigeration equipment is observed in this listing, indicating that the market is a wide one.

Unit Installation by Make For Past 3 Years

1953 Rank	Units 1951	1952	1953
A	302	251	271
B	245	216	169
C	238	227	146
D	119	124	119
E	109	88	108
F	92	122	98
G	87	79	85
H	80	12	74
I	72	80	64
J	101	60	57
K	93	71	44
L	62	43	42
M	61	38	38
N	*	*	14
O	9	11	12
P	17	2	13
Q	12	14	13
R	13	9	12
S	20	1	10
T	11	12	10
U	13	11	8
V	9	32	6
W	7	3	6
X	*	*	4
Others	24	28	13
Total	**1,796**	**1,534**	**1,436**

*Included in "Others."

FIVE-FIGURE POSITION AS REGIONAL MANAGER FOR NATIONAL MANUFACTURER

He must have—Packaged air conditioning and year-round residential air conditioning know-how, including salesmanship, engineering, and application; Ability to franchise new dealers in Texas, Oklahoma and Arkansas area, service present dealers in accordance with factory policy, train and develop dealer personnel; Co-operative attitude, good personality, sound business ability.

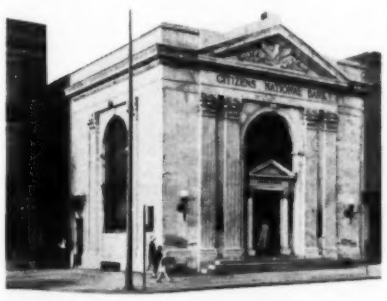
Replies will be kept strictly confidential and will be answered. Submit complete details of qualifications, experience, and recent photograph. Our people know of this ad.

SEND REPLIES TO BOX 4576,
AIR CONDITIONING & REFRIGERATION NEWS

You Can Always Bank on

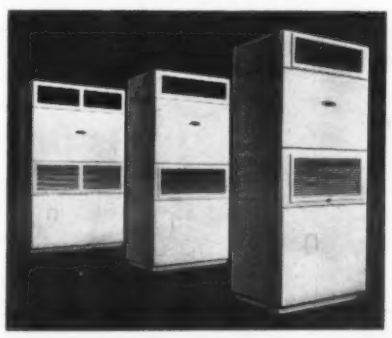
FRICK

Unit Air Conditioners



This bank is among scores of businesses—restaurants, hotels, stores, offices, and industrial plants—that have found Frick air conditioning as profitable as it is dependable.

•



Frick packaged units are designed for maximum dependability and minimum upkeep. The 7½, 5, and 3-horsepower sizes are illustrated above.

When you invest in a Frick unit you get more cooling effect per dollar—also greater quietness, greater beauty—plus the longest useful life. Units installed in 1938 are still in service.

Give your business the benefit of this superior equipment. Write for Bulletin 522. Dealerships still available in some territories.

•

FRICK CO.
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When he's CONVINCED . . . . . but not CLINCHED . . .

Be ready to clinch the sale with

COMMERCIAL CREDIT PLAN FINANCING

MOST of your prospects need their working capital and usual lines of credit for *current* operations. To make sure they buy *now* . . . and from YOU . . . include COMMERCIAL CREDIT PLAN financing in your recommendations. More than 300 offices to serve you nationally. When can we tell you our story? Phone our office in your city or write or wire COMMERCIAL CREDIT CORP., 14 Light St., Baltimore 2, Maryland.

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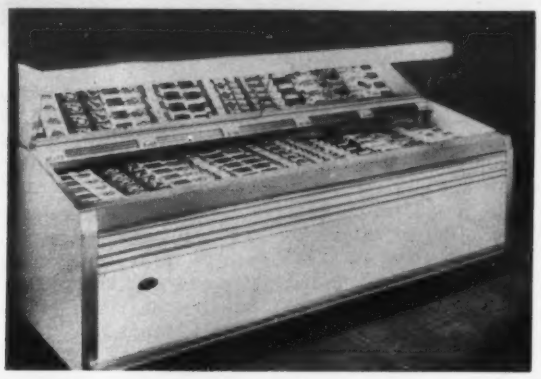


REDUCING "THE DISTANCE FROM THE DISPLAY TO THE SHOPPER'S CART" is part of the purpose of the new "no glass front" low-level height design of the new Sherer-Gillett frozen food display case.

'No Glass Front' In New Sherer Frozen Food Case Permits a Low-Level Selling Height, Better Display

MARSHALL, Mich. — In announcing its new model 3810C self-serve frozen food case to its distributors, Sherer-Gillett Co. is emphasizing the "no glass front" feature which makes possible a low-level selling height at the front of the 10-ft. case of only 36 in.

"Ever since introduction of open self-serve cases," the company said, "Sherer design engineers have been conscious of the sales barrier presented by the glass front of the case, especially when considered from the standpoint of people of short stature who found difficulty reaching either to the back of the display or to the lower levels of the merchandise for sale when display stocks are depleted.

"The 36-in. height truly reduces the distance from the display to the shopper's cart. It also adds to the effective range of the eye-appeal of the merchandise when customers approach the display.

"The increased eye-appeal of the case as a whole is also evident in the square-embossed aluminum air deflector finished in pastel blue which contrasts effectively with the aluminum panel below it."

Coiling in the new Sherer model is the "Recirculated Air" system produced under Sherer's own patent No. 2630684.

"The new application of the patent involves a reversed air flow which insures thorough circulation of controlled velocity air in the display area," it was explained.

"The controlled, low velocity of the moving air is a basic feature of Sherer's Recirculated Air patent for it reduces the possibility of refrigerated air escaping over the sides of the display cabinet."

Sherer's new model 3810C frozen food case is available with either a fixed mirror superstructure or one with sliding, mirrored doors.

When a superstructure is not desired, a stainless steel cap is substituted, making the cases suitable for an island display.

3-A Sanitary Standards For Dairy Items Studied

WASHINGTON, D. C. — 3-A Sanitary Standards for farm holding and cooling tanks, bulk milk dispensers, and other items were considered when some 80 members of the 3-A Sanitary Standards Committee met recently at Bear Mountain, N. Y., for three days of sessions, it has been reported by the Dairy Industries Supply Association.

For some of the equipment items, texts of 3-A Sanitary Standards are now near final promulgation, DISA said. For others, the standards drafts were returned to standing task committees or special conference groups which set about accomplishing various generally indicated revisions.

Bush Reorganizes Its District Sales Setup

WEST HARTFORD, Conn. — Bush Mfg. Co. here and its wholly-owned subsidiary, Heat-X-Changer Co. of Brewster, N. Y. have announced a reorganization of their sales territories into five districts covering the country.

C. T. Cavanaugh

Charles T. Cavanaugh has been appointed sales manager for the newly-formed northeastern district, including New England, upper New York state, eastern Canada, and the Cleveland and Pittsburgh areas.

Cavanaugh has been associated with Bush since 1942 and for the past three years has been western New England representative.

Prior to that, he served in various capacities in the Bush sales department, was purchasing agent, and held positions in the material control and productions departments of that company.

George Finck will continue to head the New York district office, that territory being expanded to include Philadelphia and Washington, D. C. The midwest district, headed by J. K. Campbell with offices in Chicago, has been enlarged to include part of the Ohio area.

The Joe E. Parker Co. in Atlanta will serve as southern district headquarters and the western district, with H. L. Quinn as district manager, will have headquarters at the new Bush plant in Riverside, Calif.

Commercial Refrigeration

SALESMAN WHO SOLD THE MOST CARRIER Icemakers in a nationwide contest is Ben Rader (second from right) of Metropolitan Restaurant & Bar Equipment Co., New York City, who gets prize—a travel order for an all-expense trip to Paris—from Frank Teofani (second from left), vice president and general sales manager of Carleton-Stuart, Carrier distributor. At far left is William Marsh of Carrier and at the right is Henry Rollens, Carleton-Stuart wholesale salesman.

Rader Wins Trip In Carrier Icemaker Sales Drive

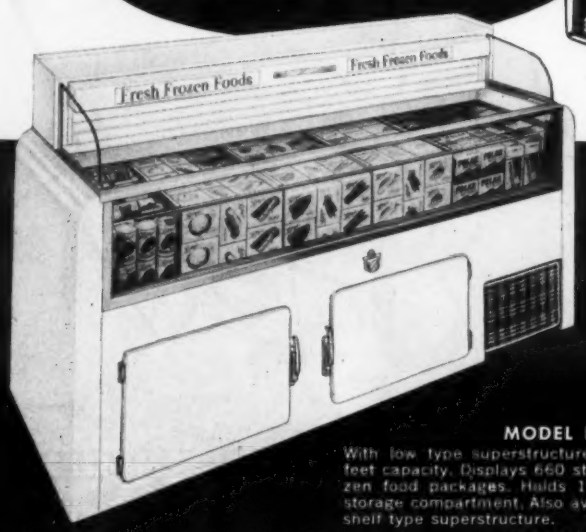
SYRACUSE, N. Y.—Ben Rader, of Metropolitan Restaurant and Bar Equipment Co. of Elmsford, N. Y., was named the top winner in a Carrier Icemaker sales contest by Michael Kane, Icemaker sales promotion manager of Carrier Corp. In addition to cash and merchandise, Rader will receive a two-week trip to Paris, for two.

Kane also reported that Carrier's Vice President's Cup will be awarded to George S. Saunders, vice president of Carleton-Stuart, Carrier distributor with whom Rader's organization is affiliated.

A Great New Line of

Double-Duty FROZEN FOOD MERCHANDISING CABINETS

By Schaefer



MODEL FGF-224D
With low type superstructure. 22 cubic feet capacity. Displays 660 standard frozen food packages. Holds 10 cases in storage compartment. Also available with shelf type superstructure.

MODEL FGF-164D
With shelf type superstructure. 16 Cu. Ft. capacity. Displays 460 standard frozen food packages. Storage compartment holds 6 cases. Also available with plastic or low type superstructure.

Double Duty
Extra Storage Capacity
Fashioned Exclusively for Frozen Food Merchandising
Space Saving
Portable—Self Contained
Low Original Cost
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DISTRIBUTORS — REPRESENTATIVES

● Our new policy of forming the Frozen Food Cabinet Division of Schaefer, Inc. enables us to expand our distributor and representative organization. If you are interested in a Schaefer Frozen Food Cabinet franchise, send the coupon or write today.

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SCHAEFER, INC.
802 Washington Ave. No., Minneapolis 1, Minn.

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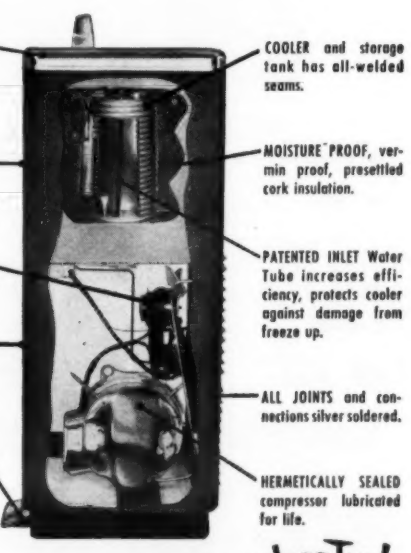
We invite you to...

LOOK INSIDE

it's the sturdy . . .

TEMPRITE

Drinking Water Cooler


SANITARY Stainless Steel Top is EXTRA DEEP. No splash from overflow — no spurt from nozzle.
WATER TEMPERATURE can be adjusted as desired.
FAN MOTOR assembly lifetime lubricated.
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PATENTED INLET Water Tube increases efficiency, protects cooler against damage from freeze up.
ALL JOINTS and connections silver soldered.
HERMETICALLY SEALED compressor lubricated for life.

The Cooler with the DEEP Stainless Top!

Stainless Steel won't crack or chip.

Easy to clean and keep clean!

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Send me distributor franchise information, I am interested in handling Temprite Water Coolers.
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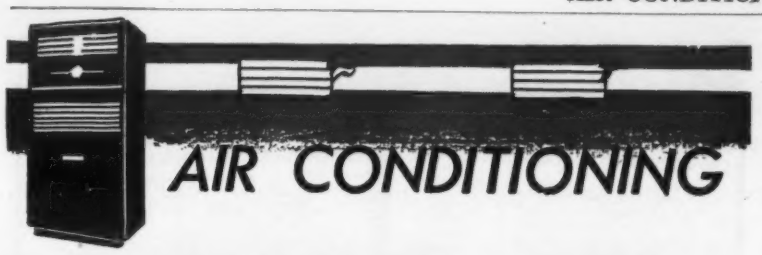

Broadway Rental Plan Allows Business To Have Cooling Without Big Initial Outlay

LONG ISLAND CITY, N. Y.—Broadway Maintenance Corp. here is taking a leading role in the New York metropolitan area in the rental of air conditioning equipment.

The firm is a prime factor in the field of street lighting and electrical construction and maintenance, and believes that its facilities along these lines fit the air conditioning rental picture well.

When Broadway Maintenance bids on a job, the customer gets a proposal that offers outright ownership of the air conditioning system, or a rental contract where Broadway installs and maintains the system for a fixed charge over a five-year period.

However, the firm says that its increase in air conditioning volume has been primarily because of the opportunities afforded some businesses to avoid capital expenditures by use of the rental plan.

"Take a case where a $100,000 air conditioning system is under consideration," says a Broadway Maintenance official. "The business firms must earn at least $166,000 after taxes in order to cover the air conditioning investment.

"Contrasted to this, the same air conditioning system will be installed and maintained on the Broadway rental plan for $40,000 annual operating charge, before taxes, over a five-year period.

"This means that a company can have an air conditioned installation without penalizing its future earnings. Not only that, the rental plan is flexible to fit the customer's needs. He can have maintenance service for five years or for a longer period of time as he chooses; the Broadway plan also permits him to take over complete ownership of the system should he desire to do so."

In the current competitive market on New York building space, rental rates being paid in older buildings are substantially lower than air conditioned structures, it was pointed out. The difference between these low rental rates for non-air conditioned space and the rates for air conditioned buildings, say the Broadway Maintenance men, will pay the entire cost of new, leased air conditioning installations and show the owner as much as 50% increase in his income over the cost of the rented equipment.

At the end of five years, the Broadway rental plan permits the user to continue the yearly maintenance contract at a reduced rate or take title to the air conditioning installation.

A number of the Broadway Maintenance installations are in industrial plants. The case is cited of one firm that was making products under government contract and was having 60% of the output rejected due to corrosion by seacoast air and dust.

"To get government approval on capital expenditure would have taken months and financial losses would have been large during the delay," says a Broadway Maintenance official. "We were called in, a rental contract was signed, and the air conditioning system was installed in record time. Plant rejects dropped to an insignificant level and costs are being paid as an operating expense."

To Cool Drugstore

ST. LOUIS—A modern air conditioned building to house a Sans Super Drugstore unit is now under construction at the northwest corner of West Florissant Ave. and Jennings Rd. Fourteen modern offices will be provided on the second floor. The building is scheduled for completion in July.

G-E Names Falkingham To Air Conditioning Distribution Post

BLOOMFIELD, N. J.—H. H. Falkingham has been appointed manager of distribution development of the General Electric Co.'s Air Conditioning Div. according to Jack S. Beldon, division manager of marketing.

H. H. Falkingham

Falkingham will represent the G-E Div.'s marketing department in working with product departments, regional sales organizations, and distributors to strengthen and develop distribution to gain more complete market coverage in each product line which the Division makes.

The development program will enable marketing facilities to keep pace with a manufacturing expansion now taking place in the division's home heating and cooling, commercial products, and Weathertron departments.

Falkingham joined General Electric in 1952 as a distribution specialist for the company's home heating and cooling department. Prior to his present appointment, he was a sales representative of that department.

AIR CONDITIONER is installed under the window of one of the guest rooms in the newly modernized Hotel Sheraton-Cadillac in Detroit. The hotel has found that the traveling public demands it.

Sheraton-Cadillac Cools 500 Guest Rooms

DETROIT—The Hotel Sheraton-Cadillac here is air conditioning 500 guest rooms, according to General Manager Neal Lang.

Each room will have its own unit, produced by Chrysler Corp.'s Airtemp Div. The air conditioners are part of a central-station air conditioning system which will provide chilled water for summer cooling and hot water for winter heating. Occupants of each room will be able to regulate the temperature as desired.

In his announcement, Lang said that "the traveling public has created a demand for air conditioned accommodations. For instance, persons travel in air conditioned planes, trains, and buses. They shop in air conditioned stores and dine in air conditioned restaurants. Now, almost as a matter of course, they expect air conditioned accommodations when staying overnight."

The air conditioning program is the most recent step in a modernization schedule begun under Lang's direction more than two years ago. The Sheraton-Cadillac already has installed escalators from the street level to the lobby.

The lobby has been redesigned with an eye to a pleasing, functional, modern design. Most of the guest rooms now feature acoustical ceilings, modern furnishings, carpeting, and retiled baths.

In the new surroundings, the air conditioners will be placed underneath the wide windows for most effective air distribution. Housed in attractive, metal cabinets, they contribute to the over-all modern theme.

Perfect in room air conditioner applications

Many successful fan applications

?
Potential savings in your product!

LOOK CLOSELY
this new LOYD SCRUGGS
6-pole shaded pole motor may be your answer!

If you're looking for reliable custom-built motor service at stock motor prices, let Scruggs be your source of supply. Sample motor to your specs can be furnished immediately. New plant facilities now permit wider scope, quick deliveries, lower pricing.

You can stake your reputation on SCRUGGS MOTORS

CHECK THESE QUALITY FEATURES
1. Copper-weld rotor for uniform performance.
2. Long-life sintered bronze bearings.
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6. Double varnish impregnation.
7. Design practically eliminates AC hum.

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Festus, Mo.—A Dazey Corporation Subsidiary
MANUFACTURERS OF PRECISION INSTRUMENTS SINCE 1934

WHERE SOLENOID SNAP

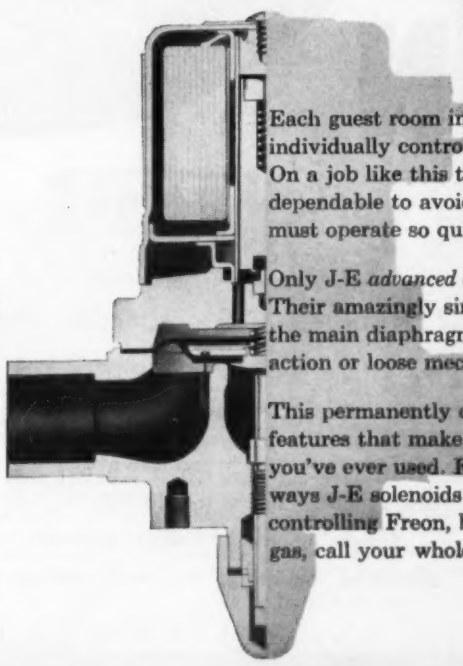
WOULD DISTURB GUESTS' SLEEP

JE SOLENOIDS

Quietly CONTROL ROOM AIR CONDITIONING

...at the luxurious, new Empress Hotel, Miami Beach, Florida

Air Conditioning by Airtemp Construction Corp



Each guest room in the ultra-modern Empress Hotel has individually controlled, "personalized" air conditioning. On a job like this the solenoid valves must be rugged and dependable to avoid constant trouble calls . . . and they must operate so quietly as to not disturb the lightest sleeper.

Only J-E *advanced design* solenoids meet these requirements. Their amazingly simple design has only two moving parts — the main diaphragm and the plunger. There is no impact action or loose mechanical linkage to cause noisy operation.

This permanently quiet operation is just one of the many features that make J-E solenoids superior to any solenoid you've ever used. For complete information on the many ways J-E solenoids can save you time and trouble in controlling Freon, brine, ammonia, steam, water, air and gas, call your wholesaler or write:

All J-E Solenoids are unconditionally guaranteed for 18 months

- TIGHT SEATING—no bubble tolerance.
- SIMPLICITY—only two moving parts.
- LONG LIFE—cool coils.
- DURABILITY—all corrosion-resistant material.
- OPENING PRESSURE DIFFERENTIAL—higher than most others on the market.

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JUNE 7, 1954

Let's Not Worry About H-Bombs; Great Promise for Better Living Through A-Power Is In Sight

HYSTERIA about the possibility of nuclear-fission-bombs destroying civilization is subsiding slowly all around the world.

Wildly predicted atomization of all life didn't materialize yesterday. Probably it never will.

Gradually the peoples of the world are coming to believe that the H-bomb may usher in a long, gingerly, tentative term of Peace. The alternatives are too horrible for any *sane* government leader —from Malenkov to Eisenhower—to consider.

Hence, we can believe our President when he forecasts that, within a relatively few years, atomic energy will provide us with new boons and a shorter work-week.

Public utility officials, like Walter Cisler of Detroit Edison, predict that atomic power will provide us with the lowest-cost electricity yet *within the next decade.* Furthermore, atomic power plants can be located *anywhere* (instead of near waterfalls or coal mines).

Ships, planes, large trucks, and even automobiles can be atomic-powered by the time our children are ready for them—with tremendous savings in fuel costs.

Already doctors are utilizing radioactive isotopes to conquer disease. Could happen, for instance, that cancer will succumb to atomized medical techniques.

Furthermore, agriculture is advancing rapidly through radiation studies. Lugubrious paleontologists who fear that the world's population may outstep its food supply can take heart from these explosive advances in getting more grain out of an acre.

All in all, there's every reason to be confident about our future as human beings.

Sure: a megalomaniac "nut" with national dictatorial power could pulverize us with an H-bomb tomorrow. Also, tomorrow morning, any one of us might be killed in the auto we drive to work. Would an H-bomb kill us any deader?

So, let us be calm, and look forward to The Great Day when atomic science will provide for our boys and girls a much greater, more abundant, happier life.

Syndicated "oracles" greatly-over-dramatize what *may* happen to us. Forever they are shouting that such-and-such an action or development is creating a fearsome "crisis." That's their stock-in-trade.

If candid review of a year's crises of this sort could be fashioned, it might surprise you and me to discover how few predicted End-of-the-World Situations ever became actual calamities.

Intelligent citizens shouldn't take seriously those Awful Worries which "cosmic commentators" and headline writers continually conjure. Most people know that screamed-about troubles seldom follow an expected pattern. Often they disappear after a good night's sleep.

Sane men and women view current problems with a degree of detachment, instead of worriedly focusing their gaze on the immediate scare overbuilt by professional alarmists.

In short: "Take it easy. You'll live longer."

They'll Do It Every Time . . . . . Jimmy Hatlo

SAFETY HINTS AND WARNINGS ARE PREACHED BY MR. PLIERS--ESPECIALLY ON THE SUBJECT OF OVERLOADING WIRES--
YOUR WASHING MACHINE IS FIXED--BUT I'M GLAD I SAW THIS, LADY--NEVER, NEVER PLUG ELECTRICAL APPLIANCES INTO A LAMP SOCKET--TOO MUCH LOAD--WHY, YOU COULD BURN UP THE HOUSE!!
YOU DON'T SAY!
BUT IN HIS OWN HOME WHAT'S HE GOT? ONE SOLITARY SOCKET... RUNNING EVERY GIMMICK EXCEPT A MARS-BOUND ROCKET!
ARE YOU EVER GOING TO DO SOMETHING ABOUT THIS?
ABOUT WHAT? OH, THAT? IT WORKS, DON'T IT?
THANK AND A TIP OF THE HATLO HAT TO PHILIP C. BROWN, ROUTE 1, BOX 172-D, FALLBROOK, CALIF. AND MRS. J. C. WILLSEY, 2406 S. BARR, FT. WAYNE, IND.
4-13

PHOTO OF UNICON INSTALLATION
AT SHOYER'S RESTAURANT, PHILA., PA.
BY ATLANTIC REFRIGERATION AND EQUIPMENT CO., PHILA., PA.

needed for Condensing

WITH THE

UNICON

TRADE MARK

by KRAMER

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If water is a problem,
there is only one CORRECT SOLUTION—
UNICON by Kramer,
the air-cooled condenser that DOES NOT USE WATER!

Two types—the direct drive and the belt drive—are available for ¾ to 100 H.P.

Stands, hoods, and wind deflectors are available for simplified mounting. You need nothing else!

WRITE FOR BULLETIN U-210

KRAMER TRENTON CO. • Trenton 5, N.J.

OFF THE CHEST

Findlay, Ohio

Editor:

I finished recently reading your book *"Peace and Progress."*

I believe about the highest tribute I could pay it can be done in just six words: "I wish I had said that." That may not be a particularly noteworthy compliment as adjudged in the world of literature —but, By Gosh, it's the highest that one Harold Henry Edens can pay!

It is possible my concurrence, in many of your statements and the opinions you express, is due to the obvious (I believe) mutuality of our political affiliations. Naturally, I have observed thru highly jaundiced eyes many of the carryings on of our Washington wastrels during the twenty years preceding 1952 . . . and have viewed with mistrust and misgivings the "cradle to grave" security (?) so benignantly bestowed upon us—at a price, of course, and regardless of the fact that some of us would appreciate less interference and more of an opportunity to demonstrate, or at least *experiment* with, the fact that some of us anyway just might possibly be able to stand on our own two feet and take care of ourselves and our own.

I like your style of writing in *"Peace and Progress,"* George. I like those short, punchy 2, 3, and 4-word sentences, such as: "But we aren't." (p. 7) . . . "He's so right!" (29) . . . "We hope not." (41) . . . "Take strikes." (43) . . . "Why not?" (45) . . . "Could be." (56) . . . "Some do, though." (57) . . . "What is?" (154) . . . "Look at us today." (152) . . . etc., etc.

And I like your alliterative style, such as: ". . . plaguing personal problems" (p. 1) ". . . the duty of decent, deductive, devoted, and determined citizens . . ." (2) ". . . slide, slip, and slump . . ." (21) "They're devoted, decent, and docile." (23) ". . . pious proclamations of politicians . . ." (40) ". . . . oasis of opportunity . . . desert of desperation" (113) . . . etc., etc., etc.

"Peace and Progress" could be read by our people, and its advocations followed, with much benefit to our nation. That is my sincere opinion.

HAROLD HENRY EDENS

Drayer-Hanson, Inc.
Los Angeles, Calif.

Editor:

Having just returned from a rather extended trip, I have been going over my issues of AIR CONDITIONING & REFRIGERATION NEWS, which arrived during my absence.

I was indeed impressed by your issues in which you have gone to the new nine point ideal type.

This is a definite improvement, and is another indication that you and your publication are, as usual, on the ball.

ROSS RATHBUN,
Sales Manager

Servicing Self-Service Cases

An Outline of Some of the Proper Approaches To Installing And Maintaining Refrigerated Self-Serve Display Cases

By B. E. Meler, Manager, Field Sales Service Div., Weber Showcase & Fixture Co., Inc.

This is the first instalment of an article by Mr. Meler based on his talk "Application and Service Problems of Open Self-Service Cases" which was given before the ARI Educational Conference and Exhibit held at Long Beach, Calif.

Refrigerated self-service display cases are taking a dominant position in food store fixtures, and the author tells how refrigeration service engineers can best approach the servicing of such equipment.

Balance of the article will be published in future issues.

I have been asked to discuss with you some of the application and service problems with self-service refrigerated equipment. But before we enter into discussion, I think it would be well to first go back a few years and recall some of the strides that have been made in the refrigeration industry.

In the past 10 years, we have witnessed a great growth in the refrigeration industry that is almost unparalleled by any other. We have likewise seen the growth of the retail merchandising of perishable foods to a point where today, any time you go into any market across our land you will find that you are able to purchase almost any perishable food from a refrigerated case.

Competition has almost forced the retail merchant to turn to the self-service type of equipment in order to operate his store or market and show a profit. For about 10 years now, the manufacturer has been designing and testing self-service equipment that will meet the demands of the merchant.

Servicemen Must Keep Up

In doing so, he has placed the refrigeration engineer in a position where he finds it is absolutely necessary to be well-trained and well-informed on what is happening in the industry from month to month, in order that he may be competitive in his field.

In the last four or five years, we have witnessed the growth of the self-service equipment to a point where today you can find supermarkets across our land that use upwards of two and three hundred lineal feet of this type case. This has been made necessary because not only ice cream and frozen foods are merchandised from this equipment, but almost any perishable food that you can name is placed at the fingertips of the customer.

By use of the self-service case, which is open for customer service, the retail merchant is able to present his merchandise to the customer in a more attractive and efficient manner.

The requirements of a self-service case sometimes seem to be almost beyond reason. The equipment is installed many times under abnormal conditions and often requires maximum service, but gets only the minimum amount of service which is not sufficient to properly maintain self-service equipment when improperly installed.

More Controls, Defrosting

The retail merchant, as well as the wholesaler of perishable foods, has made industry scratch its head and work overtime in its laboratories in order to produce self-service equipment that meets the demand of the trade.

Until four or five years ago, we had witnessed a normal growth in the manufacture of self-service equipment, using both gravity or convection type refrigeration, as well as the plate type which has more recently been almost entirely replaced with the forced air case.

This type of equipment, of course, requires more mechanical controls, defrosting devices, etc., which mechanically control the operation of this equipment. To service and maintain equipment of this type, it is very necessary that the refrigeration engineer be better informed and better trained in order that he can meet the needs of the user of such equipment.

The manufacturer today furnishes the user with each and every piece of equipment, complete installation and operating instructions, which are a necessity to the servicing engineer in order to properly service and maintain it.

Study Mfrs. Instructions

We believe if a refrigeration engineer who installs a new piece of self-service equipment becomes acquainted with the technical points of it by studying the instructions furnished by the manufacturer, he will be in a much better position to service the equipment through the years to come.

Our big problem is, however, that a customer many times turns to some other refrigeration contractor, and in doing so, oft-times the contractor is not too well acquainted with the design of the case. I would recommend to any refrigeration engineer who is faced with this problem that he immediately contact the manufacturer and request all the instructions on the model of equipment that he has contracted to service in order that he may become better acquainted with all of the mechanical features of the case.

When a refrigeration engineer is called to a job where he is not acquainted with the type of cabinet, he usually finds a glistening white case wrapped up with either porcelain or dulux finished panels, and has no idea of mechanical features of the equipment.

Perishables Are at Stake

Usually the retail merchant is in dire need of service, because the case is loaded with perishable foods, and he expects the refrigeration engineer to be all but a *Houdini* to take care of the service needs without delay.

We have witnessed an educational program by the RSES for the last few years which is almost unbelievable in any industry. We, as manufacturers, however, believe there is an additional training need for the refrigeration engineer; that is, the practical approach to the servicing of self-service equipment.

Until the self-service case appeared on the market, an engineer technically trained could usually solve the problems that would arise. Today, however, we encounter a more complex problem.

Light and Air Factors

With light and air which are factors to be considered in the operation of a self-service case, a refrigeration engineer must acquaint himself with the practical problems that arise from day to day.

By this means, the correct installation of the equipment is of necessity very important. We would heartily recommend that the instructions of any manufacturer be followed very closely when installing a self-service case. Many times our technical ability causes us to approach a problem that could be more easily solved by a layman, because he has no method other than a practical one to solve the problem. I have no way of expressing my thinking other than to coin the phrase that "sometimes we are too near the tree to see the forest."

You have noticed, I am sure, that most educational meetings devote much of their time to the electrical problems of the refrigeration service engineer. This is a must, and I believe we should continue to do this; otherwise, the manufacturer is going to be ahead of the refrigeration service industry.

To Check Out a Case

To correctly check out a self-service case, it is not only necessary to know what the refrigeration machine is doing and know that the evaporator is in proper balance with the machine, but he must also know what the air temperature is coming into the merchandising deck, as well as the air leaving the merchandising deck.

We all know that ambient air which is allowed to enter a refrigerated case, plus the light—introduced perhaps by the electrical lighting of a market, or sunshine—reduces the efficiency of the evaporator until the case will not maintain maximum temperatures.

What Is the Minimum T.D.?

Our engineering department attempts to design self-service equipment, whether it be low or standard temperature, that will maintain a minimum of 10° temperature differential between the air as it enters the refrigerated zone and the air returned to the coil.

Usually a check of the air at these two places is a good sign for the refrigeration engineer to check the coil and air ducts to see if they are clean. The refrigeration engineer has always been concerned, and, of course, should continue to be, with the temperature differential of the coil and the product area.

This is an important factor that cannot be overlooked and I emphasize again the need of knowing what the air temperature into the refrigerated zone is, as well as the temperature of the air returning to the coil. This will show whether or not excessive spillage of the refrigerated air is occurring, because if it does, ambient air enters the case to replace the refrigerated air that is spilled from the case. This is a very important problem which we are faced with in maintenance and servicing of self-service cases.

Location Often at Fault

Of the service complaints that we hear of from month to month throughout the country with self-service equipment, I believe the majority of the complaints are not with the mechanical equipment which we might term machine, controls, valves, etc., but instead with the case failures that may be caused by location of a self-service case near fans, windows, or open doors, that would certainly make it almost impossible for equipment to do the job for which it was designed.

(To Be Continued)

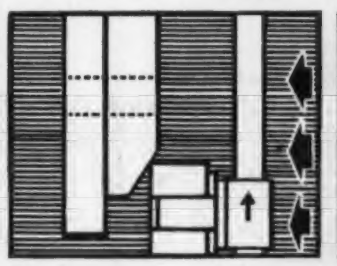
Exclusive self-cleaning action makes (A-P) Model 65 water regulating valve first choice for trouble-free service

Yes, the Model 65 is engineered to always stay clean — even in dirty water. Valve seat is wiped clean on each cycle by unique action of floating Spauldite valve shoe as it moves across stainless steel orifice. Aided by water pressure, it provides a positive shut off — without hammer and is unaffected by dirt, lime or sand.

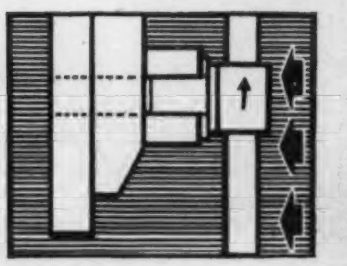
Presently available in ⅜", ½" and ¾" sizes, 2.7 to 42 gpm capacities for Freon 12 or Freon 22 service. Write today for complete details.

Smooth action that means trouble-free service for you

1 V-Block seals water in main valve body. Water never comes in contact with spring or operating bellows. Rugged forged-brass body provides leak-proof, corrosion resistant service.



2 Illustration shows floating shoe starting to close. Note how bevel allows shoe to "hug" seat, thus assuring a clean "wipe" each cycle of condenser pressure rise and fall. No chance for dirt to accumulate.



3 Here valve is fully closed. Water pressure forces shoe tightly against seat for complete shutoff. This long-life, economical, self-cleaning action is an exclusive feature of the Model 65 water regulating valve!

DEPENDABLE Controls
for Air • Gases • Liquids • Refrigerants

A-P CONTROLS CORPORATION

IMPORTANT:
Watch for new larger sizes to be announced soon!

2460 N. 32nd St., Milwaukee, Wisconsin • *In Canada:* A-P Controls Corp., Ltd., Cooksville, Ontario.

NEW EFFECTS in lighting are achieved by McCray by use of "Verd-A-Lite" fluorescent lamp which gives cool yellow and green rays for fruits and vegetables, K. E. Tobin explains to Nicholas Sumas.

ISLAND vegetable case introduced by C. V. Hill is unrefrigerated, but is provided with insulation for iced displays and water connections for spray (optional) Jack Kelley, center, learns from H. A. Hattenback and C. S. White.

SHERER-GILLETT'S new line of cases eliminates front glass, substituting attractive embossed aluminum air deflector finished in pastel blue, Fred Eaton and Jack Twist point out to Thomas L. Barletta, supermarket operator.

AIR CONDITIONING has increased appeal for supermarkets. This 20-ton self-contained model is on its way to a Youngstown, Ohio super, R. D. McLain of U. S. Air Conditioning tells Mr. and Mrs. E. L. Beuhler.

New Products Make Bow at 17th Annual Super Market Institute Show

PACKAGED air conditioners were also shown in conventional sizes such as this 7½-ton Frigidaire "Master-Matic" unit, features of which are here being reviewed by M. C. Schenk (left) to Walter Maurer.

ELECTRIC DEFROST is a major selling feature of the new Federal 4374-SC self-contained ice cream case shown here with Frank Taplitsky, Roy H. Loudon, and Stanley C. Bell.

FROZEN FOOD case featured by Friedrich includes automatic defrost, a feature which is being stressed more this year by both manufacturer and customer. Model shown is the OY11R.

FAMOUS Marlo QUALITY NOW AVAILABLE IN A NEW, SMALLER COOLING TOWER

Introducing the MARLO Thrifti Tower

Induced draft

2-16 Tons

For Residential, Light Industrial and Commercial Applications

A SMALL TOWER WITH THESE BIG ADVANTAGES
- Can be installed indoors or outdoors
- Sturdy construction of 16-ga. galvanized steel
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- Mastic interior coated for longer life, extremely quiet operation

Write or Wire NOW for Price and Data Sheets. Send for Bulletin CTM-1.

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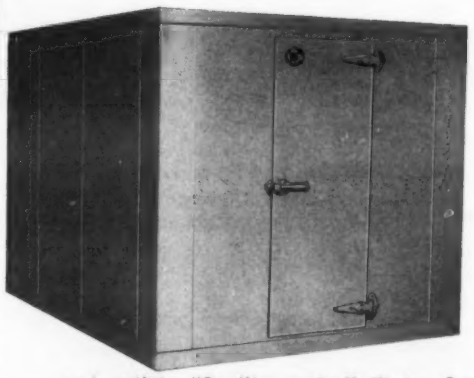
Manufacturers of COOLING TOWERS • EVAPORATIVE CONDENSERS • INDUSTRIAL COOLERS • AIR CONDITIONING UNITS • MULTI-ZONE UNITS • BLAST HEATING & COOLING COILS

Saint Louis 10, Missouri

NEW . . . COMPLETE LINE OF LA CROSSE WALK-INS



- A model for every type of storage.
- A price for every budget.

Now, LA CROSSE DAIRY OR BEER METAL WALK-INS are available either painted or unpainted, priced to meet the toughest competition. Unpainted models also feature Armco paint grip exteriors, ready for customers own color schemes if desired. All models feature pilot light and outlet. "Quality controlled" La Crosse construction guarantees dependable, trouble free service.

Write today . . . for complete information

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Export Office: 80 Broad St., New York City. Cable Address: Eximport

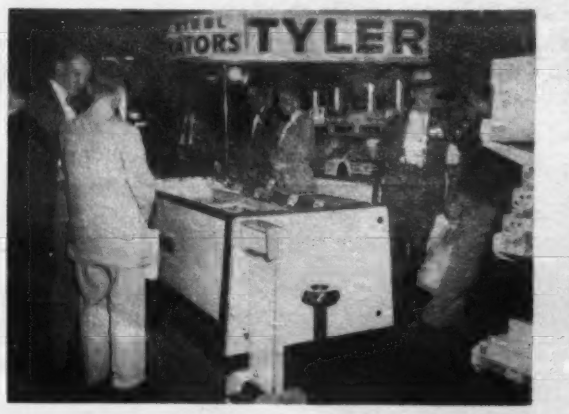
What Was New At Super Market Institute Show

COMPRESSOR RACKS made of tubular steel can save as much as 66% in valuable storage space, according to the manufacturer, Signal-U Mfg. Co., which has just introduced the new line. Reed R. Cooper (right), president, points to a unit on the third deck for Roy Martz.

ADJUSTABLE METAL shelving is now being produced by Hussmann Refrigeration, Inc. Interlocking design avoids use of screws, bolts, and nuts to permit quick adjustment and easy installation, demonstrates Ed. C. Behnken, assistant sales manager in charge of shelving.

WEBER'S redesigned "Blizzard 161" open cabinet for ice cream and frozen foods is said to have "fastest defrost system now on the market." Built-in cover is another feature.

BREWER-TITCHENER's chief talking point about its new open ice cream case is "6-minute automatic defrost," Robert Riedl learns from Charles Q. Sherman (left) and "Bud" Wilks (right).



TOP DISPLAY space in the Tyler booth was allotted to this island model open frozen food case available in 8 and 12-ft. lengths. Case measures 36 in. high.

COLOR is the predominate note in Warren's new line of "Super Merchandiser" self-service cases, which are available in pastel shades of ice blue, robin-egg blue, aqua green, flamingo, shell ivory, and black. Island merchandiser is in foreground.

Announcing...

NEW Paragon water spray defroster at

55% SAVING

Now Only $34.50

for • Locker Plants • Unit Coolers • Walk-in Boxes • Fur Storage • Breweries • Dairies

NEW WS24 gives you
- ✓ ONE DIAL
- ✓ ONE MOTOR
- ✓ NEW COMPACT DESIGN

YES, Paragon engineering advancements score again for you—3 important ways! (1) You get tremendous savings — *from $78.00 to $34.50.* (2) Only one dial and one motor. (3) New compact size saves 4½" in width over former model . . . makes WS24 easier to install. And, of course, you get Paragon's usual service warranty plus a nation-wide service organization. Order a stock of WS24's today from your jobber, or write Department 1687.

ONE CONVENIENT DIAL for setting frequency of defrost (1 to 24 cycles daily) as well as duration of cycle. Switch can be manually operated to check continuity of circuit. Heavy-gauge steel baked enamel case is 10⅛" x 5¼" x 4¼". Knockouts, both sides, bottom and back.

TWO SIZES: WS24 (120-v-60 cycle) $34.50; WS24-3 (240-v-60 cycle) $35.50

Bank on Paragon Time Controls for all types of Air-Conditioning and Refrigeration Service

COMMERCIAL DEFROSTER · DEHUMIDIFIER TIMER · 7-DAY CALENDAR DIAL TIME SWITCH · FAN TIMERS

Let us send you data on all these dependable, accurate Paragon time switches — write

PARAGON ELECTRIC COMPANY

1712 TWELFTH STREET • TWO RIVERS, WISCONSIN

WORLD'S FOREMOST MANUFACTURER OF TIME CONTROLS

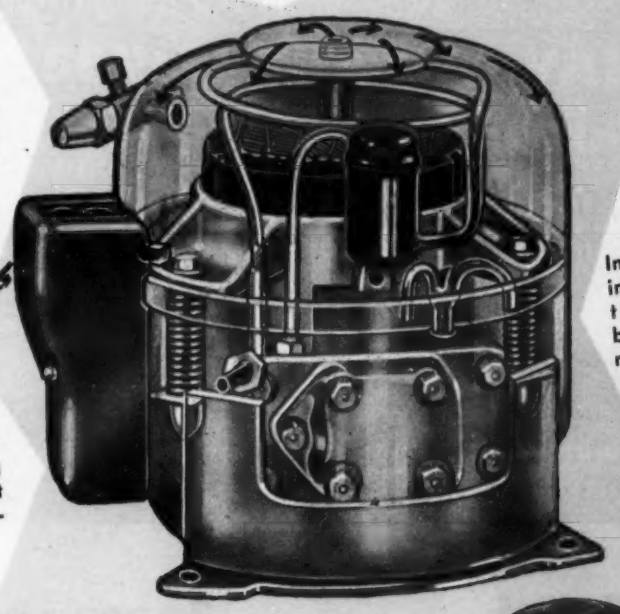
Easy to See Why

SERVEL SUPERMETIC

Runs Cooler . . . Quieter . . . More Economically

Geyser-like action of oil spray from top of shaft dissipates compressor heat through power unit dome — soundproofs movement of internal parts.

Refrigerant vapor returning from evaporator coil envelops stator windings — reduces motor heat to assure highest efficiency of power elements.



Internal spring mountings eliminate vibration. Unit can be bolted securely to mounting supports.

Easily accessible controls have long capacitor leads — only wiring required is to connect supply line to 2 terminal posts.

Servel hermetic condensing units for expansion valve or capillary tube type systems, and hermetic power units are available in all popular sizes from ¼ through 7½ H. P. Write today for complete set of Supermetic model specifications.

Here are Servel features that boost profits when commercial refrigeration and air conditioning fixtures are "powered by Supermetics." Simple to install, exceptionally easy to check — Servel's quiet, dependable operation will please your customers, create more sales. If you are not now using Servel, order a Supermetic for your next applications. All models are factory-warranted.

Servel

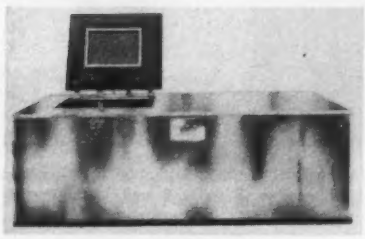
SERVEL, INC., Commercial Refrigeration Division, Evansville 20, Indiana

THE NAME TO WATCH FOR GREAT ADVANCES IN REFRIGERATION AND AIR CONDITIONING

What's New

When requesting further information on new products, please use "Information Center" form.

Webber Chamber Tests Electrical Components



——KEY NO. D-610——

INDIANAPOLIS—Designed primarily for testing electrical components, a new low temperature test unit has been introduced by the Webber Mfg. Co. here.

Called the Webber W-9-100 FH test unit, it has a temperature range of from -100° F. to 200° F.

A special type door incorporates a removable "plug" panel containing forty ¼-in. diameter openings for test lead connection to the inner chamber. This "plug" may be easily replaced with similar panels to fit any requirements, the company said. Electrical terminals may be installed and located as desired.

The heat cycle is applied through Calrod type heating elements. Safety factors prevent surface temperature from exceeding 400° F.

Inside dimensions of the test chamber are 10 in. wide, 32 in. long, and 26 in. deep. The unit is stainless steel construction with 5½ in. of superfine glass fiber insulation. The test chamber itself is constructed of copper.

Other models are available to temperatures of -200° F. to 500° F.

Trigger On Propane Torch Snaps Flame On and Off

——KEY NO. D-611——

PITTSBURGH—A new "Torch-O-Matic," pistol-shaped torch for soldering, burning, sweating, and other jobs and designed for use with propane gas, was introduced recently by the Velocity-Power Tool Co. here.

A squeeze of the trigger produces a controlled flame—a fine, pin-point or a full 6-in. flame. The new torch saves substantial time and gas because of its instant-on, instant-off features.

"Torch-O-Matic" in operation.

Users can get as much as 50% more time from a tank of propane gas because the flame snaps out on release of the trigger, it is pointed out. Absence of lingering flame on shut-off also promotes safety, avoiding accidental fires and burns.

Pumping, priming, heating, and waiting are eliminated through use of the new torch, known officially as the "Type P Propane Torch-O-Matic," because ignition is instant on squeeze of the trigger, the company said.

The new Propane Torch-O-Matic connects directly to the propane tank.

ABOVE: Connor air diffuser being installed. RIGHT: Fitted into place, the diffuser harmonizes with acoustical tile ceiling.

Removable Air Diffuser Fits Like Acoustical Tile

——KEY NO. D-612——

DANBURY, Conn.—Fitting into the suspension system like an acoustical tile, a new air diffuser that is easily removable to any location has been introduced by the Connor Engineering Corp. here.

The diffuser has a flexible tube duct connection and is interchangeable with both tile and lighting fixture, the company explained.

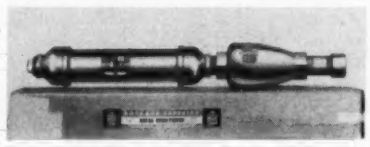
The outlet gets its mobility from a special metal and plastic tubing. The latter can be twisted, stretched, or compressed and still retain the same interior diameter, thus permitting the diffuser to be offset to the next bay if necessary.

The diffuser itself fits snugly into the tile motif to form a level, harmonious plane. An adaptation of the standard Connor Kno-Draft design, it lends itself especially well to this application because of its single orifice and self-contained sleeve damper.

Another feature is the ease with which air volume is controlled. A simple tool operated from the floor opens or closes the damper.

Recommended for both conventional and high pressure air conditioning, the unit is made in 1 by 2 and 1 by 4-ft. panels, 4, 5, and 6-in. neck sizes, and capacities of 75 to 175 c.f.m.

Water Conditioner Uses Nuclear Physics Principles



——KEY NO. D-613——

JACKSONVILLE, Fla.—Claimed by the manufacturer to be "the first important commercial application of nuclear physics principles to the effective treatment of an industrial problem," a new water conditioner has been introduced by Packard Mfg. Co. here.

The Packard conditioner "prevents scale and corrosion by imparting added energy to the atoms of the water solution," the company says.

No further explanation of how the device works is contained in the manufacturer's announcement.

The unit requires "no expensive maintenance or servicing."

Guaranteed for 10 years, the conditioner is produced in sizes handling from 6.5 to 1,760 g.p.m. for connection with corresponding standard iron pipe ranging from ¾ in. to 12 in.

The manufacturer claims that among "satisfied users" are air conditioning and refrigeration systems.

*EXAMPLE No. 5: Local distributor warehousing and service are other advantages you enjoy when you handle the Bryant line. Your Bryant Distributor is equipped to help you on sales calls . . . to offer technical assistance . . . to co-operate in local promotion . . . to promptly supply the equipment or parts you may need for any job. He is as near as your telephone. And his services are backed by competent factory district representatives, factory product specialists and traveling factory sales-training and service teams.

It will pay you to call your nearby Bryant Distributor today.

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HEATING AIR CONDITIONING WATER HEATING

1. The most complete line in the industry
2. Quality products—Competitively priced
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4. Broad, attractive profit margins
5. * Local Distributor warehousing and service
6. Factory district representatives and traveling sales training and service teams

Bryant Heater Div., Affiliated Gas Equipment, Inc., 17825 St. Clair Ave., Cleveland 10, Ohio

Information Center

For *more information* on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

What's New or Current Literature Available

Key No. ..... Key No. .....
Key No. ..... Key No. .....
Key No. ..... Key No. .....
Key No. ..... Key No. .....

Products Advertised
(list name, page, and issue date)

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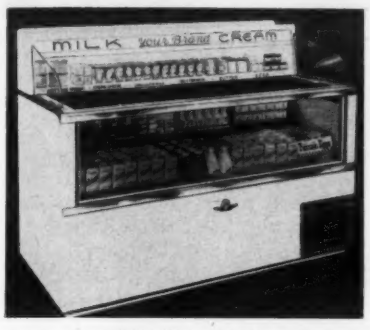
What's New (Con't)

Ace Dairy Case Drains by Self-Evaporation



——KEY NO. D-614——

NEW YORK CITY—Featuring a self-evaporation method of drainage which eliminates the need for a permanent drain, a pair of milk and dairy display cases has been introduced by Ace Cabinet Corp. here. A drain and pan is included for occasional cabinet cleaning.

The cabinet stands 54½ in. high and is 34 in. deep. Model MC-51 is 51⅝ in. long and MC-75 is 75⅝ in. long. The smaller cabinet has a capacity of 348 milk cartons and the larger a capacity of 561 cartons.

A large refrigerated shelf for display of by-products requiring cold storage temperature and a second shelf within the superstructure for related products are provided.

Of all welded construction, the cabinet is fabricated of heavy gauge, rust-resistant steel. Finish is in double baked Duco enamel and trimmed in gold hammertone. Fluorescent lighting is placed behind a translucent panel for brand names. All stored products are well-illuminated, the company said.

Refrigeration is by finned forced air evaporator and hermetic Tecumseh condensing unit.

Range-Refrigerator Has Freezer, Door Shelf

——KEY NO. D-615——

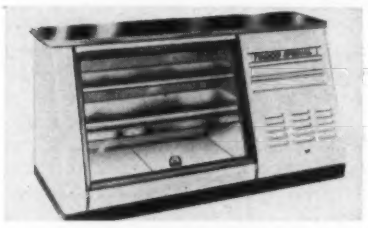
LONG ISLAND CITY, N. Y.—A new model electric range-refrigerator combination with two burners available in 110 and 220 volts was announced recently by Acme-National Refrigerator Co., Inc. here.

Called the model R.E. 5F, the unit measures 27 in. wide, 25½ in. deep, and 36 in. high. The refrigerator has more than 5-cu. ft. capacity and includes a 25-lb. horizontal freezer, an inner door shelf, and a drip tray.

Equipped with a hermetically-sealed compressor unit using "Freon-12," the refrigerator is finished in three coats of high baked Du Pont deluxe synthetic enamel with porcelain finish. Cabinet is of heavy-gauge reinforced steel.

Heavily chromed hardware includes concealed hinges and finger tipped door latch. An automatic light illuminates the entire food compartment when door is opened.

Formica Top Display Case Is Counter High



——KEY NO. D-616——

YONKERS, N. Y.—A self-contained counter-high 43-in. Formica top display case featuring 884 sq. in. of advertising space in front has been introduced by the Frigid Igloo Mfg. Corp. here.

The one-piece Formica counter can be used for service and wrapping, while paper bags or a roll of wrapping paper can be stored in the interior top of the unit compartment.

The triple-Thermopane full vision display front has an area of 1,197 sq. in. The white interior has contrasting aluminum shelves while the exterior is white baked enamel trimmed with fluted stainless steel molding around the Thermopane front.

Measuring 32 in. deep, the case is available in lengths of from 6 to 12 ft.

Air Conditioning Unit Features 'Floating Chassis'

——KEY NO. D-617——

LOS ANGELES—Utility Appliance Corp. here, manufacturer of automatic heating and air moving equipment, has introduced a new line of summer air conditioning units featuring what it terms an exclusive "floating chassis" design.

This engineering innovation eliminates metal "knocking," the company asserted.

Designed as companion units for the extensive line of Utility forced air furnaces, these air conditioners, designated as 2-SAC and 3-SAC, may also be used with other makes of furnaces.

Installation may be made either at the time of original construction, or added to existing heating systems, where ducts are suitable, it was pointed out.

The units may also be operated as separate air conditioners, with no connections to a heating system. They are available in 2 and 3-ton capacities.

Announcing the units, S. F. Skafte, Utility Heating Div. sales manager, described them as the first in the field to feature the floating chassis design.

By isolating the refrigeration unit and blower completely from the cabinet by means of resilient rubber mounts, the noisy vibration usually caused by metal-to-metal mounting is eliminated, he said.

As a further advantage, blower and refrigeration units may be easily removed for servicing, he added.

"They feature over-sized condensers which require no modification to operate with city water or cooling towers, hermetically-sealed compressors combined with opportunity for field service, and complete flexibility of control connections for all types of heating-cooling installations."

Wrought Iron Table, Tray Come with 16-In. Fan

——KEY NO. D-618——

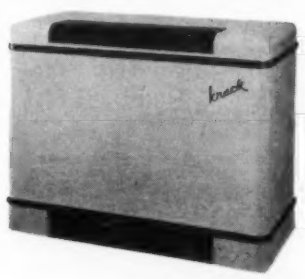
CINCINNATI — A 16-in. fan furnished with a black wrought iron table and companion tray on which to place it has been introduced recently by the W. W. Welch Co. here under the trade name "Air-Flight Cosmopolitan."

The fan is produced in two models, one (Model 77W) is sea-foam green plastic and the other (Model 99W) in crystal clear plastic. The table, according to the manufacturer, is window height so that the fan can be placed in front of any window, either sash or casement.

The fan operates at three speeds at a maximum of 2,500 c.f.m. It floats in rubber in its wrought iron cradle. The motor is also mounted in rubber for quiet operation and the legs of the table are rubber capped.

The fan body revolves to intake or exhaust positions or any other angle desired. It features patented Welch louvers and circular fin design on front and rear grilles for more efficient air propulsion, the company says. The fan is covered by a five-year guarantee.

The manufacturer notes that the fan can be removed from the table if desired and used as a floor air circulator while the table is used for serving.



KRACK
BREEZE-E-FEX
REMOTE TYPE
CONSOLE COMFORT
CONDITIONER

Attractive, sun tan finish console comfort conditioner, compactly designed for remote installations. Ideal where ductwork is impractical, prohibitive in cost or where individual room control is desired. Suitable for installation under windows or in recess.

For use with Freon or chilled water, steam or hot water coils optional. Washable filters. Dual speed life lubricated motors with centrifugal wheels. Fully insulated housing. Available in ½, ¾, 1, 1½, and 2-ton sizes.

Better Built — By Krack Better Buy — Buy Krack

For more information, write for KRACK Bulletin 6754.

REFRIGERATION APPLIANCES, INC. 923 W. LAKE STREET CHICAGO 7, ILLINOIS

Pioneer Manufacturers of Refrigeration and Air Conditioning Equipment

UNIT COOLERS . . LOW TEMPERATURE UNITS . . COMFORT COOLERS . . AIR CONDITIONING COILS . . EVAPORATIVE CONDENSERS . . COOLING TOWERS . . GRAVITY COILS AIR COOLED CONDENSERS.

choose the valve that fits the job

instead of making the job fit the valve

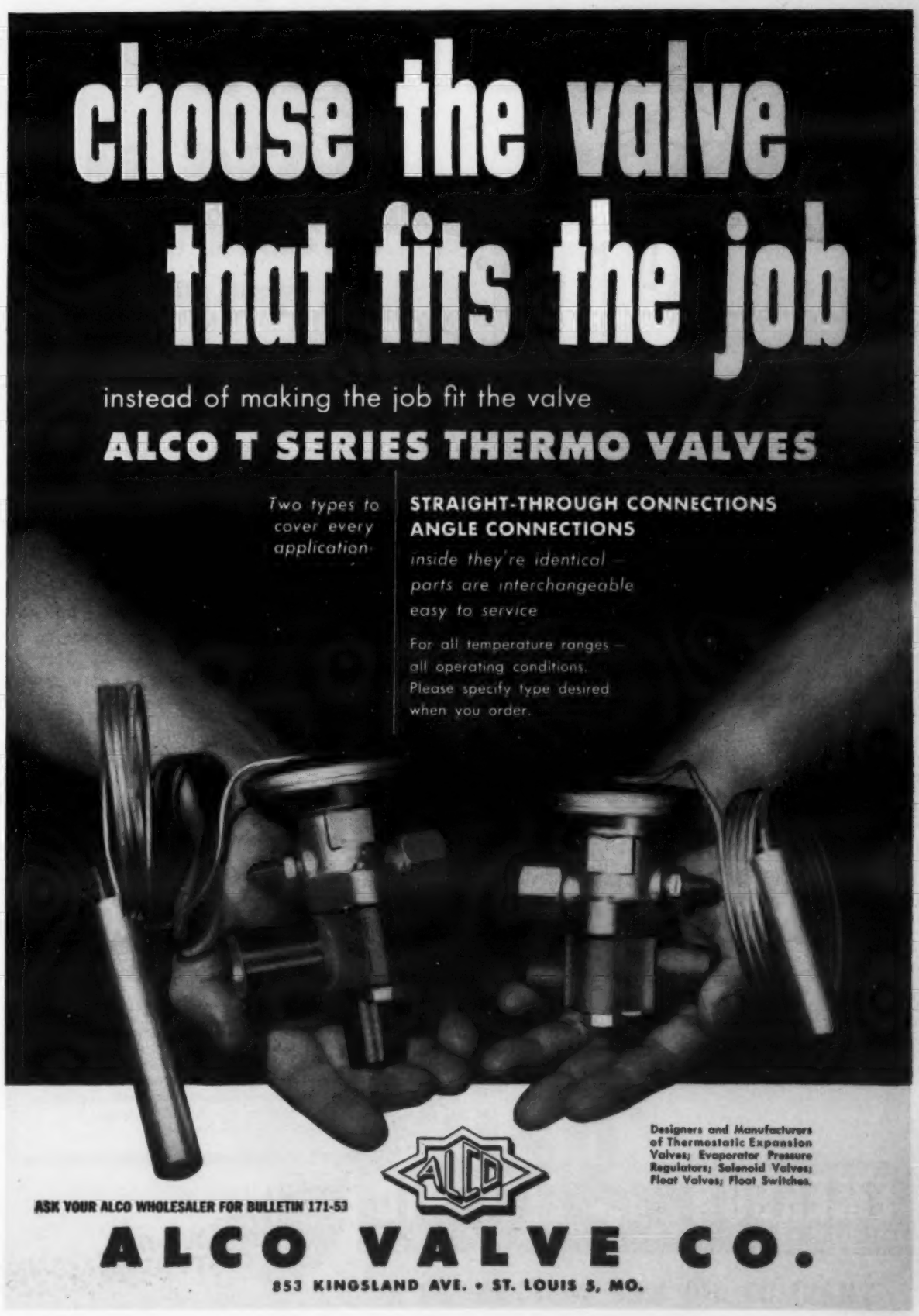
ALCO T SERIES THERMO VALVES

Two types to cover every application

STRAIGHT-THROUGH CONNECTIONS
ANGLE CONNECTIONS

inside they're identical — parts are interchangeable easy to service

For all temperature ranges — all operating conditions. Please specify type desired when you order.



ASK YOUR ALCO WHOLESALER FOR BULLETIN 171-53

Designers and Manufacturers of Thermostatic Expansion Valves; Evaporator Pressure Regulators; Solenoid Valves; Float Valves; Float Switches.

ALCO VALVE CO.

853 KINGSLAND AVE. • ST. LOUIS 5, MO.

Masterfreeze

Masterfreeze Corp., Sister Bay, Wis.

	16SCH	20SCH
Model No.		
Chest or upright type	Chest	Chest
DIMENSIONS (In Inches)		
Interior: Height	26½	26½
Width	49½	61½
Depth	21¾	21¾
Exterior: Height	35½	35½
Width	72	84
Depth	29	29
CAPACITY (In Cu. Ft.)		
Total	16.4	20.4
INTERIOR EQUIPMENT		
Partitions (No.)	Yes	Yes
Non-refrigerated storage	Yes	Yes
INSULATION		
Kind	Fiberglas	
Thickness: (In Inches)		
Top	2½	2½
Sides	3⅝	3⅝
Bottom	4½	4½
LIDS OR DOORS		
Outer doors or lids (No.)	1	1
Provision for locking?	Yes	Yes
WEIGHT (Lbs.)		
Net	450	525
Shipping	550	650
PRICE, suggested retail	$443.87	$514.03

REFRIGERATION EQUIPMENT

Cooling method.....Plate type
Compressor:
Make .....Tecumseh
Sealed .....Yes
Location in cabinet.....Left end
Refrigerant .....“Freon-22”
Make of control .....Ranco
Accessible for user adjustment? .....Yes
Location .....Front
Condenser: Type
Finned .....Yes
Forced convection .....Yes
Anti-sweat provisions around freezer opening .....Yes

CONSTRUCTION AND FINISH OF

Cabinet .....Metal
Interior liner.....Aluminum or steel

PROTECTION PLAN

Warranty .....Five years

The specifications of the 1954 line of Masterfreeze home freezers printed here arrived too late for inclusion in the special “Home Freezer Specifications” issue published on May 31. Home and Hotel Equipment Co. of Allentown, Pa. has informed the NEWS that it is making home freezers to order this year, but has no stock models. It made the S. W. Christine freezer last year.

Wayne E. Harger Named Market Research Mgr. By Amana Refrigeration

AMANA, Iowa—Appointment of Wayne E. Harger as market research manager of Amana Refrigeration, Inc., has been announced here by E. L. Hinchliff, sales manager.

W. E. Harger

In this capacity, Harger will conduct continuing studies of freezer and room air conditioner marketing and merchandising trends.

Harger joined Amana in 1953 as assistant to the sales manager. Previously he was associated with Central Republic Co.

GEORGE H. STEFEK (l.), president of American Shirtboard Advertising, demonstrates Rich Plan’s new food-freezer plan campaign for William A. Bruce, president of Rich Food-Freezer Plan of Chicago, and Dorothy Eckberg, assistant to Bruce.

Stuffed Shirts

Rich Food-Freezer Plan Sales Message Slips Into Homes with Family Laundry

CHICAGO—Because William A. Bruce, president of the Rich Food-Freezer Plan, set out to find a new, yet low cost, advertising medium, Rich became the first company in the freezer industry to use laundry shirt cardboards as a sure means of getting the sales message into the home.

Through the American Shirtboard Advertising Co. here, Bruce was able to have his sales message printed on the 8 by 16-in. cardboards used by laundries as stiffeners for washed shirts.

Rich Plan boards were printed in two colors, showing a large illustration of a well-stocked freezer. Copy was brief and provoked further inquiry by asking the reader how much his family spent each week for food.

Some 200,000 shirtboards were distributed by American Shirtboard in the Chicago suburban area.

“Returns on the question showed we had amazing readership,” said Bruce. “Probably the novelty of seeing advertising on the shirt cardboard plus the feature of no other sales message in sight helped attract strong attention to our ad. Cost of the cards was even less than a postcard mailing.”

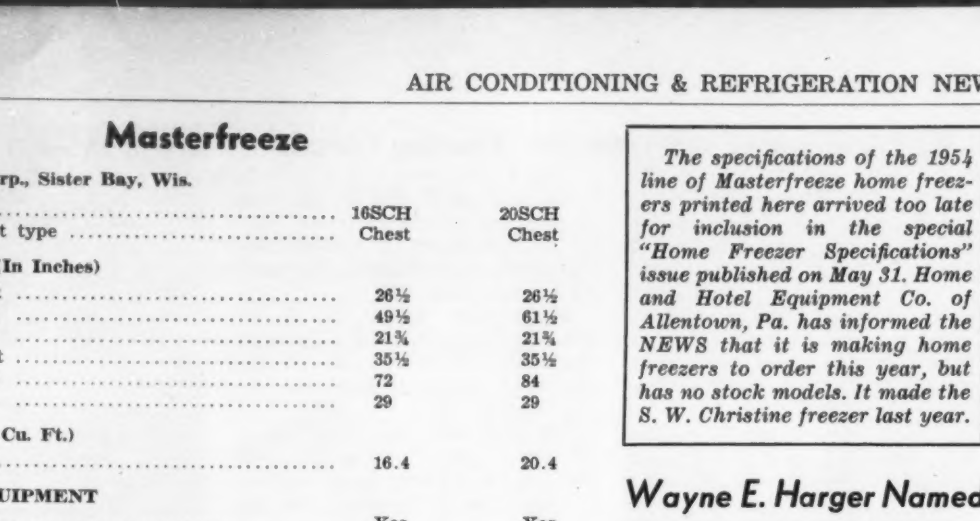
Bruce also commented favorably on actual sales resulting from the promotion. “Follow-up calls by our salesmen produced over 75% in actual sales.”

American Shirtboard Advertising of Chicago, headed by George H. Stefek, introduced the shirtboard advertising plan two years ago.

Stefek announced, “Shirtboard promotion will also be used this spring and summer by some of the leading national manufacturers of room air conditioners.

“Plans for the room air conditioner campaigns indicate there will be stress for the consumer to visit his dealer for details.

“The reverse side of the boards will be printed with material to build multiple readership. Sports schedules, score cards, recipes, and children’s games are some of the uses planned for the reverse side.”



“...you can say that again” 180 times per minute!

People who have something important and interesting on their minds... and want other people to know about it... rely on modern duplicating equipment.

Clean, accurate copies—180 per minute—flow automatically from these machines, powered with quiet, dependable Emerson-Electric Motors.

Emerson-Electric specializes in building motors for equipment with a reputation for dependability. It has done so for 64 years, and offers standard motors in ratings from 1/20 to 5 h.p., and hermetic motors 1/8 to 20 h.p.

Look to Emerson-Electric if you are looking for the right motor to power your product efficiently, dependably. Your inquiry is invited.

THE EMERSON ELECTRIC MFG. CO.
St. Louis 21, Mo.

HERMETIC MOTORS
⅛ to 20 H. P.

We offer manufacturers of hermetically sealed units a broad background of engineering experience in hermetic motor design. We also have unequalled facilities for the production of hermetic motor parts. Cooperative engineering service available without charge.
Write for Bulletin No. M417.

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MOTORS • FANS APPLIANCES

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of the May 31 issue containing 1954 Home Freezer Specifications Are Available

You will want extra copies of this outstanding issue. Take advantage of these quantity rates to provide a copy for each of your key men to use throughout the year.

1-9 copies	40¢ each
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FIRST COME—FIRST SERVED BASIS

AIR CONDITIONING & REFRIGERATION NEWS
450 W. Fort St., Detroit 26, Mich.

Gentlemen: Send me ..... copies of the May 31 issue of Air Conditioning & Refrigeration News containing HOME FREEZER SPECIFICATIONS for 1954. Please rush these to me at the address given below.

☐ Payment enclosed ☐ Bill company

Name .....
Company .....
Street .....
City ..... Zone ..... State .....

6-7-54

SLANTS ON SERVICE

"Slants on Service" is a "package" devised by the NEWS to meet the needs of its busy readers in the service and contracting business.

Discharge Capacitors After Use for Testing

After using an auxiliary capacitor for starting a hermetic unit, which is sometimes necessary in diagnosing service troubles, be sure to discharge the capacitor immediately by shorting across the terminals, cautions George Eager, Servel service manager.

Otherwise, he says, you may get quite a shock if you accidentally touch both terminals of a charged capacitor.

* * *

Charge 'Freon-12' Gas Through a Drier

When charging "Freon-12" into the low side with the refrigerant in the gas stage, always charge through a drier, advises John Bopp, chief chemist of Ansul Chemical Co.'s Refrigeration Div.

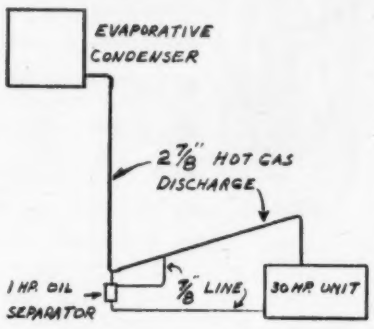
"Vapor over the refrigerant contains about seven times as much water as the liquid below it," he explains. "When pulled from the cylinder in the gas phase, wet refrigerant is charged into the system and the remaining refrigerant becomes more dry. Any contamination of the cylinder appears as a dramatically higher concentration in the vapor."

* * *

When To Use Muffler

Mufflers should be used on large systems when the discharge line is more than 10 ft. long. The muffler should be five times the displacement of the compressor and should be located as close to the compressor as possible.

An oil separator will also perform the same function as a muffler.



Small Oil Separator Can Solve Condenser Problem

With an evaporative condenser installed on the roof of a building 50-ft. higher than the compressor (a 30-hp. job), which is located in the basement, what solution would you offer to prevent condensing of refrigerant in the hot-gas discharge line?

Obviously the discharge line is too large, but before replacing the line, you could try a simpler and less expensive method, believes Frank Richards, engineer for J. George Fischer & Sons in Saginaw, Mich.

The hot-gas discharge line in this job happens to be 2⅞ in. Richards suggests the installation of a 1-hp. oil separator in the by-pass arrangement shown in the sketch.

The by-pass line and the return line from the oil separator to the compressor are ⅞ in. copper.

Herrmann To Represent Bush and Heat-X-Changer

WEST HARTFORD, Conn. — Bush Mfg. Co. here and its subsidiary, Heat-X-Changer Co., Brewster, N. Y., have announced the appointment of Joseph Herrmann as a sales engineer in the Pittsburgh area.

J. Herrmann

A graduate of the University of Pittsburgh with a B.S. degree in mechanical engineering, he was previously associated with General Electric as a development engineer in the company's air conditioning department.

Later he served as an application sales engineer for a Carrier distributor in Pittsburgh.

Wolverine Opens Mill Depot in Columbus

COLUMBUS, Ohio—A new Wolverine mill depot stocking Wolverine seamless non-ferrous tubing in copper water tube, automotive tube, and refrigeration tube, will serve customers in Ohio, Pennsylvania, Indiana, and portions of Kentucky, Wolverine Tube Div. of Calumet & Hecla, Inc. announced recently.

J. H. Smith, east central district manager, will coordinate the new operations in the company's Columbus office.

Danville, Ill. Plant to Produce 'Genetron' Refrigerant Products

NEW YORK CITY — Plans to build a large new plant at Danville, Ill. to produce "Genetron" refrigerants and aerosol dispersants were revealed recently by General Chemical Div., Allied Chemical & Dye Corp.

The company announced that it has exercised options to purchase a 73-acre site for the plant east of Danville near Route 10 adjacent to Brewer Station of the Milwaukee (CM&St.P RR) Railroad.

While detailed plans have not yet been made, the company expects to start construction as soon as possible with the view to having the plant in production early in 1955.

The new plant will mark another major step in the industrial development of General Chemical's "Genetron" line of organic fluorine chemicals for which it now has a large production center in Baton Rouge, La.

A General Chemical spokesman stated that the Danville site had been chosen to enable the company to provide maximum service to the large number of refrigeration and aerosol manufacturers which are concentrated in the midwest.

SMALL but complete refrigeration system set up by Alco Valve Co. permits demonstrations of the effect of various types of refrigerant flow control valves. Set up here in the store of Lee Equipment Co., Detroit parts wholesaler, the system is explained to James Fante (left) of Jentzen-Miller Co. by V. V. Solomon, Alco representative, as Ed. and Ray Lee look on.

Riverside Mfg. Expands with New Facilities

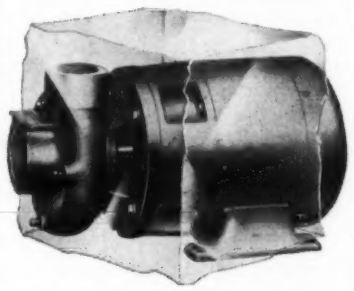
DEARBORN, Mich. — Riverside Mfg. & Electrical Supply Co. here has considerably expanded facilities for the production of wiring harnesses and other electrical components, according to A. W. Roach, vice president.

The expansion was made possible through purchase of all of the machinery, equipment, and materials formerly used in the manufacture of wiring harnesses by Pioneer Wire Products, Detroit.

Pioneer, a large manufacturer of automotive radio antennas, recently decided to discontinue operation of a division devoted to production of wiring harnesses because of increased demand for their major product, and plans to use space formerly occupied by the division for antenna production.

Roach said Riverside plans to divide its newly-increased facilities between its two major production plants.

keeping COOL



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You are in a hot spot when the pumps you install don't stay on the job—don't deliver cooling water around the clock when the weather is hot. That's why it will pay you to investigate the extra performance—extra durability—extra ease of installation and maintenance designed and built-in to every Ingersoll-Rand Motorpump for air conditioning applications.

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PRESSURE GAUGES and Dial Thermometers for all services.
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MARSH INSTRUMENT COMPANY
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WHAT CAUSES OIL DECOMPOSITION?

A lot of people will tell you that high discharge temperatures cause oil decomposition. This is certainly true. And it's a problem you can often handle easily by proper maintenance and adjustment of equipment. But this is not always enough. If the oil you're using doesn't have *high stability,* it can still decompose no matter what the discharge temperature may be. The solution to this is easy. Use an oil with proved high stability—SUNISO.

Sold Everywhere by Leading Refrigeration Wholesalers

SUNISO ADVANTAGES • provides adequate lubrication at all temperatures encountered in service • possesses a high degree of stability • won't throw out wax deposits under low temperature conditions • has extremely low moisture content • resists formation of corrosive acids and carbon under service conditions • separates readily from refrigerant—won't react adversely

SUNISO
REFRIGERATION OIL
A PRODUCT OF SUN OIL COMPANY

Control Systems

How Various Types of Controls Function In Air Conditioning Explained at U. S. Air Force Engineers' Conference

Editor's Note: This is another instalment in the series presenting the papers given at the recent Refrigeration & Air Conditioning Engineers' Conference held by Headquarters, United States Air Force at the Pentagon in Washington, D. C.

Previous articles discussed "Load Calculations," "Equipment Selection," and "Equipment Arrangement" for a typical synthetic flight trainer building.

Below is the first instalment of a talk devoted to "Control Systems" for air conditioning.

By Joseph H. Broome, Executive Assistant to Vice President, Minneapolis-Honeywell Regulator Co.

Automatic controls become increasingly important as we begin to realize the effect of temperature and humidity changes on our daily living not only in comfort, safety, and efficiency of human beings, but in the protection and maintenance of valuable mechanical and electronic equipment. Even the storage of materiel now demands close control of both temperature and relative humidity.

I think, therefore, that when you ask why do we need automatic controls, and why are we devoting a segment of this conference to that subject, it can be answered by pointing out four very vital functions which they perform.

1. Automatic controls maintain specified conditions of temperature, pressure, and humidity through fast, accurate sensing of changes in these factors.

Only automatic controls can satisfactorily sense these changes. People can tell when they're too hot or too cold, but not quickly enough to coordinate the valves, dampers, or relays incorporated in a modern well-designed air conditioning system. The various functions of the mechanical equipment must be accurately coordinated with each other to provide satisfactory operation, and then this operation must be maintained in the face of constantly changing occupancy, weather conditions, and internal heating or cooling loads.

2. Automatic controls provide the necessary safety factor for both equipment and human life.

Excessive and dangerous condenser head pressures cannot be tolerated. Chilled water tanks must be prevented from freezing. Low humidities are hazardous in operating rooms, whereas high humidities are ruinous to valuable electronic equipment. In many cases a definite sequence of operation in the starting of equipment must be followed in order to guard against damage to machinery.

3. Automatic controls are on guard 24 hours a day.

Ordinarily, it is impossible to have someone on guard at all hours of the day and night, and frequently he must divide his responsibilities among several duties. In addition, there is a strong swing to unattended operation. Automatic controls watch over the equipment at all times.

4. Automatic controls create economy by operating the equipment only when and as it is needed.

Operating costs are kept at a minimum, with lower power consumption, more economical use of steam or water, and less wear on the equipment.

I think, therefore, that when you ask why automatic controls, you have four very potent reasons, any single one of which would not only justify but necessitate automatic control.

It might be well to spend a few moments finding out how temperature and humidity are measured, because if we do, we may understand more fully what makes a thermostat work—what it can do—and what it cannot do.

Now the temperature of a body may be qualitatively defined as that property of the body which determines the sensation of warmth or coldness received from it.

But along with the more acute sensations of warmth or coldness, there is a marked change in other physical properties of the body, such as:

1. Increase in dimensions.
2. Increase in pressure, if confined.
3. Change in e.m.f. developed when in contact with some other substance.
4. Change in electrical resistance.
5. Increase in the amount of radiation from the surface of the body.
6. Change in the color of the body.
7. Change in state.

Dimensions Increase

Most metals expand when heated or contract when cooled. The amount of such expansion and contraction is termed the coefficient of expansion of that metal. The uniformity of such expansion allows us to translate this movement into temperature measurement. However, in order to take better advantage of this, two dissimilar metals with widely different coefficients of expansion are braised or welded together into what is known as a bi-metallic strip or element.

On a temperature rise the whole bi-metal element will deflect or bend in the direction of the inert metal. This deflection can be translated into degrees or temperature change. Fig. 1 illustrates how such an element can be incorporated into a thermostat.

Pressure Increases

In a closed vessel, a volatile liquid will produce a saturated vapor of a definite density, depending upon the temperature of the liquid. This density can have only one pressure at any single temperature. Therefore, by placing a small amount of volatile liquid inside a sealed bellows, we can cause this bellows to expand or contract as the temperature surrounding it causes the volatile liquid to vaporize and exert more or less pressure inside the bellows. The movement of the bellows can then be translated into temperature degrees. It is also possible to use gas, such as nitrogen or a solid fill, such as an oil or mercury, and take advantage of expansion and contraction of a gas or a liquid.

Also, by placing any of these fills in a remote bulb and connecting it by means of capillary tube to a bellows, it is possible to measure temperature remotely from the instrument case. Fig. 2 shows incorporation of a bellows into a thermostat. In this particular control contact is made by means of a mercury switch, rather than an open contact type. The mercury switch permits long life, dust free operation, and no pitting of contacts.

When two wires of different metals are joined together at one end and the free ends are connected to a sensitive millivoltmeter or galvanometer, the meter will indicate that a current is flowing. This is the basis of the thermocouple.

Can Measure Changes In Resistance

Metals change in electrical resistance in proportion to the temperatures to which they are subjected. Consequently, if a fixed voltage is applied to a piece of wire, the voltage drop across this wire will be a direct index of the temperature surrounding the wire. This device is utilized with a sensitive meter and a wheatstone bridge circuit to provide an accurate method of measuring temperature from -100° to 1,000°.

The four means of measuring temperature, which we have briefly discussed above, are those which you will more frequently encounter in the design and application of air conditioning control systems. I will, therefore, not dwell upon the remaining three means, namely, increase in the amount of radiation from the surface of the body, change in the color of the body, and change in state.

(Continued on next page)

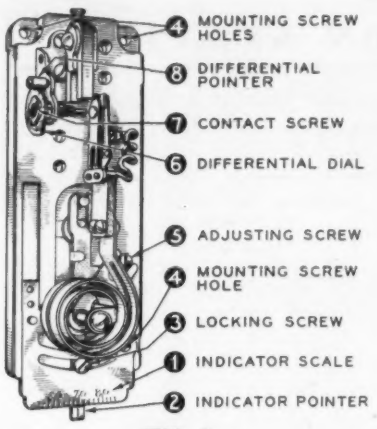

FIG. 1

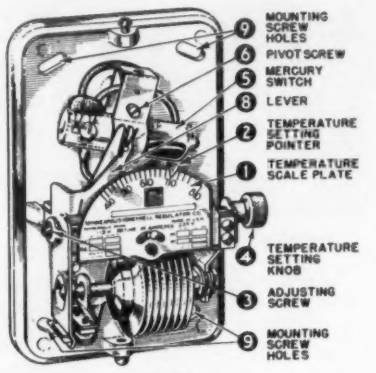

FIG. 2

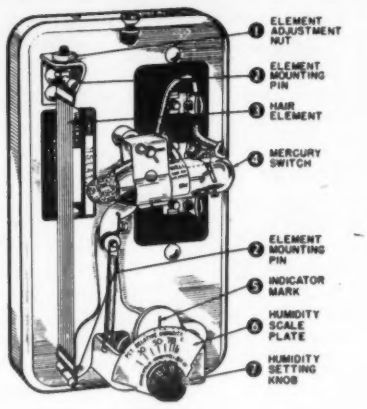

FIG. 3

NOW...A LOW COST WAY to Convert Warm Air Systems to Year-Round Air Conditioning

HOW CONVERT-TO-COOL WORKS: The Typhoon cooling coil is placed right on top of an existing furnace and connects into present ductwork. The refrigerating unit (a small package about 3 feet square) is located in a convenient spot outside the living area. It's easy to install. . . .and you'll sell and service *cooling* only.

Tremendous New Market Over 11 million homes throughout the country have warm air furnaces. Every one is a hot prospect for Convert-to-Cool!

Air-Cooled Eliminates water supply and drainage problems and extra plumbing costs. Assures operation during water shortage!

TYPHOON AIR CONDITIONING

TODAY—wire, phone, or use the coupon for full details!

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794 Union Street, Brooklyn 15, N. Y.
I'm interested in selling the Typhoon Convert-to-Cool system. Please rush full details.
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ADDRESS_____
CITY_____ ZONE____ STATE_____

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Specialists in Air Conditioning Since 1909

Here's Harry Alter's DEPENDABOOK No. 161 1954
REFRIGERATION PARTS and Supplies *plus*
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There are over 9,000 items illustrated, described and rock-bottom-priced in our newest DEPENDABOOK. So—get and use this money-saver! Write for your copy to

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How Air Conditioning Controls Operate--

(Continued from preceding page)

Measuring Humidity

The primary element of a humidity controller may be human hair, wood, leather, or any other substance that will respond to humidity changes. As the moisture content of the surrounding air changes, moisture is absorbed or released and the element expands or contracts operating the mechanism of the controller, such as a snap acting type open contact switch.

In Fig. 3 the hair element operates to tilt a mercury switch one way or the other to make or break a circuit.

The hair element can be adapted to modulating control by operating a slide wire across a potentiometer coil.

A humidity sensing element is also available for electronic application and the control consists of two comb-like strips of gold fused to a piece of glass. Electric contact is maintained between the two strips by a hygroscopic salt painted over the surface of the glass. The resistance of the salt varies with the amount of water it absorbs and this small change in resistance in turn causes changes in current which can be detected and used in an electronic circuit.

The next step is to find out how these thermostats and humidity controllers and pressure controls can be put to work into a control system, to actuate valves, dampers, and relays. There are a number of actuating media available—electric, pneumatic, electronic, mechanical, and hydraulic. I am going to dwell particularly on the first two, with a short discussion of the third.

Common Control Circuits

Essentially the average electric thermostat is nothing more nor less than a thermostatically operated on-off switch. For example, in Fig. 4 the controller merely makes or breaks the circuit, utilizing line voltage power at 115 or 230 volts. By addition of a transformer, it is often desirable to use low voltage at 24 volts. A high limit control can be wired into the circuit in series with the thermostat and controlled device, as shown in Fig. 5.

Another common circuit is two-stage control, as shown in Fig. 6.

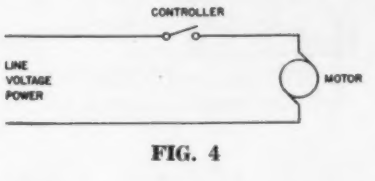

FIG. 4

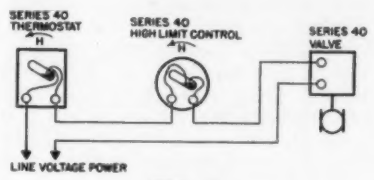

FIG. 5

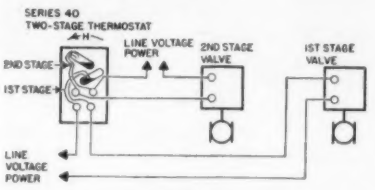

FIG. 6

This is frequently used in air conditioning to control two stages of refrigeration in sequence. On a rise in temperature the lower control switch tips to the left and opens the first stage cooling valve. If the temperature rises further, the upper switch tips to the left and opens the second stage cooling valve.

Modulating Controls

These examples have shown an on-off type or mode of control. But especially in air conditioning, we continually have need for modulating or proportional control. In other words, we may need to position a valve or damper at some point between full-open and full-closed, so as to produce just the amount of cooling that may be required to offset heat gains in the space under control. Here is a typical modulating circuit using the wheatstone bridge principle which we shall later see incorporated into complete systems.

Circuit Balanced

In Fig. 7 you will note that there are three main components; first, the controller incorporating a temperature sensitive bellows operating a slide wire across a potentiometer; second, a transformer; and third, the controlled motor, which can be driven in one direction or the other, a balancing relay, and a motor driven balancing potentiometer.

In Fig. 7 the diagram indicates that the circuit is in a balanced condition and, therefore, the contact arm of the balancing relay is floating between the two contacts, no current is going to the motor and the motor is at rest.

Fig. 8 shows a condition in which the temperature has dropped by some small amount. As a result the slide wire of the thermostat potentiometer has moved toward the right end of the coil. A greater current now flows through the right leg of the circuit and, therefore, coil C2 of the balancing relay exerts greater force on the armature than does coil C1. This in turn causes contact to the side of the circuit sending current directly to the motor-winding W2. The motor now moves the balancing potentiometer to a new position.

In Fig. 9 the motor has now moved the balancing potentiometer to the left until it reaches a position which equalizes the current flowing through the two legs of the circuit. Now the right side of the thermostat potentiometer has a resistance equal to that of the left side of the motor balancing potentiometer. The contact arm of the balancing relay again floats between the two contacts and as no current is going to the motor, the motor is at rest.

Many control combinations can be incorporated into this type of a modulating circuit, such as low or high limit control, sequence control, summer-winter operation, etc.

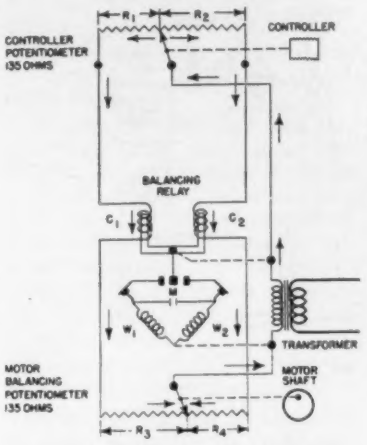

FIG. 7

Pneumatic Controls

A pneumatic control system uses compressed air for the operation of valves, motors, and relays. Ordinarily such a system is made up of five elements, as follows:

1. A source of clean, dry, compressed air.
2. Air lines, usually copper tubing, from the air supply to the controlling devices, such as thermostats, humidity controllers, or pressure controllers. These air lines are called mains.
3. The controlling devices themselves, such as thermostats, humidity controllers, pressure controllers, relays, and switches.
4. Air lines leading from the controlling devices to the controlled device. These are called branch lines.
5. The controlled devices, such as valves or motors. These are called "operators" or "actuators."

Fig. 10 shows a basic pneumatic control system with the five component parts mentioned above. It is possible, of course, that compressed air may already be available in a building and in such a case, a pressure reducing station can be installed instead of the compressor.

Before proceeding any further, it might be well to look at a typical pneumatic motor, such as shown in Fig. 11. This has little resemblance to the average elec-

(Continued on next page)

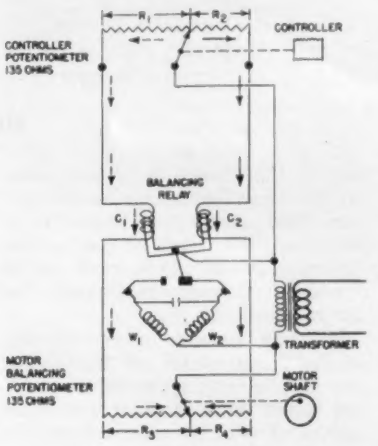

FIG. 8

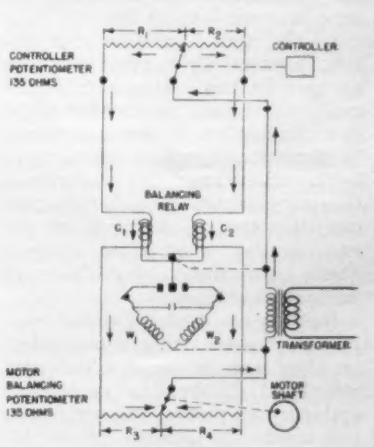

FIG. 9

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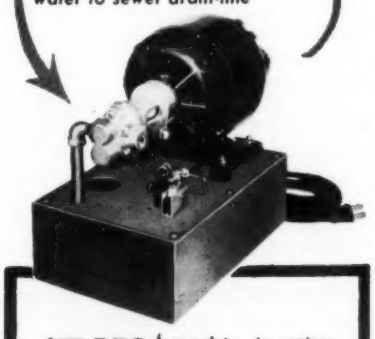
designed to eliminate pumping water to sewer drain-line



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- 1/3 H.P. Motor
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EXCLUSIVE FEATURE: condensate accumulating in tank is pumped against 100 lbs. pressure of condenser water-line through check valve directly in condenser water-line at air conditioning unit, thence to cooling tower.

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Pneumatic Controls--

(Continued from preceding page)

tric motor with which you are familiar. Instead of electricity, energy is provided by compressed air which comes in from the controller through the branch line to the pneumatic motor at some pressure between 0 to 15 lbs.

As the motor consists of a bellows opposed by a spring, it can be seen as the pressure from the controller builds up from 0 to 15 lbs., the bellows in the motor will be slowly compressed. By actuating a valve stem or lever arm from the movement of this bellows, we can then operate dampers, valves, and similar mechanical devices. There are many variations of pneumatic motors.

Bellows are made of metal, neoprene, or some other composition, or they can be constructed with individual diaphragms or with a cylinder and piston. The air can be put inside the bellows or outside the bellows, depending upon the particular construction.

In order to actuate such a pneumatic motor, we must have a suitable control device. Fig. 12 shows a schematic diagram of a typical bleed type thermostat. As the bimetal element deflects in one direction or the other, depending upon a change in temperature, a vane or flapper is moved toward or away from a nozzle, through which air can escape. You will notice that there is a restriction in the main line from the air supply. This restriction must be so adjusted that the nozzle in the thermostat can allow more air to bleed out than comes through the restriction.

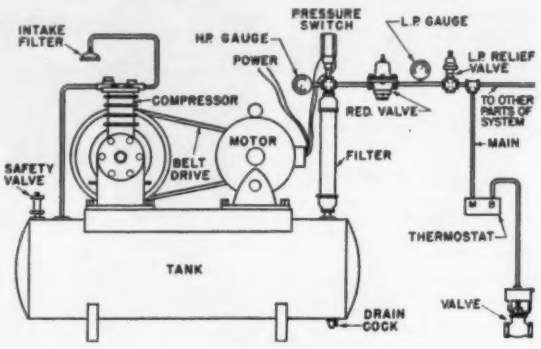

FIG. 10

In this manner when thermostatic action closes off the nozzle, air will be built up in the pneumatic motor under control, but when air is allowed to escape from the nozzle, it will have sufficient capacity to bleed the air out of the controlled device.

In effect, then, the thermostat acts as a pressure reducing device. Bleed controllers are inherently graduate acting, although they can be made positive acting.

Fig. 13 illustrates a non-bleed type of thermostat. Several important advantages become evident. For example, air is used from the air main when the valve or motor is moving in one direction only. At all other times the system is closed. This permits the use of smaller compressors. Incidentally, you will notice that a non-bleed type thermostat can be easily adjusted for throttling range, direct or reverse action, and by choosing of the correct fill, can establish an approximate straight line relationship between the temperature change in the controlled medium and the change in the branch line pressure.

Many control combinations are possible in a pneumatic system but time does not permit discussion of them. However, here are one or two combinations which are particularly simple and frequently used.

In Fig. 14 the diagram shows a compensated master-submaster control system. If the master was a humidity controller located in a conditioned space, it could reset the control point of a submaster dewpoint controller located on the leaving side of a central fan system air washer. As you can see, the master has a branch line which feeds directly to the submaster, and by variation of this branch line pressure, the control point is easily adjusted up or down in response to conditions measured at the master controller.

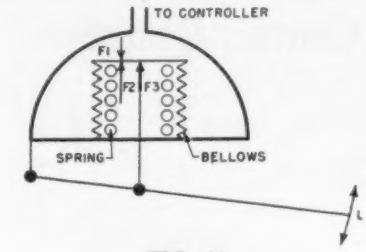

FIG. 11

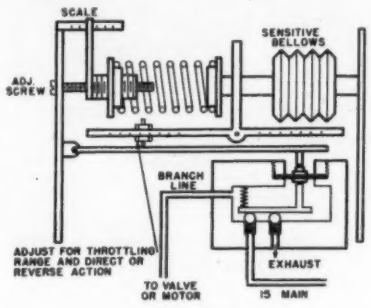

FIG. 13

Another application frequently used is shown in Fig. 15, where an E-P relay is energized or de-energized, let us say, by the fan starter circuit, to open an outdoor air inlet damper when the fan is running, and shut the damper when the fan is off.

Which To Select

When to select electric or pneumatic control?

A. Select electric control for:

1. Simple room unit applications.
2. Primary control of heating or refrigeration equipment.
3. Small air conditioning jobs where price of an air compressor would seriously affect the cost.

B. Select pneumatic control for:

1. Large central air conditioning jobs.
2. Sequencing of valve, damper, and relay operation in year-round and zone control applications.
3. Explosion-proof applications.

Electronic Controls

One of the most sensitive methods of controlling temperature is by means of an electronic circuit. Such a circuit, incorporated into a control system, is rugged, requires little maintenance, has no moving parts, and, therefore, is not susceptible to wear, is unaffected by dirt and dust. An electronic control is sensitive to 1/15 of one degree F. and will initiate the movement of a control device to correct for a change of 1/15° F. at the controller.

The basic features of this system are: a. three fixed resistors, b. known voltage source, c. temperature sensitive resistor, and d. an electronic amplifier or relay. The three fixed resistors and the temperature sensitive resistor are arranged as shown in Fig. 16.

You may be familiar with the wheatstone bridge circuit. Fundamentally, it works as shown in Fig. 17. A 15-volt source is impressed at point A. If a voltmeter were placed across points A and B, it would read 15 volts. If it were placed from A to point 7½, the voltmeter would read 7½ volts. The top line works identically with this. Therefore, if the meter is placed between the 7½ point of each line, it will read zero. (Fig. 18).

Let C and D represent those two points and let R1, R2, and R4 represent fixed resistances. If R3 represents the temperature sensitive resistance in the thermostat then as the temperature we wish to measure increases, the resistance of R3 increases and the 7½ volt point will move to the left.

The voltmeter between points C and D will no longer read zero, but will indicate the change in R3 as compared with R1 which does not change resistance with a change in temperature.

It can be seen that the reading of the voltmeter is a very accurate measure of the change in temperature at the controller R3. The difference in voltage between points C and D will always be a very small quantity even for large changes in temperature. Therefore, an electronic amplifier is used to amplify the signal to such a magnitude that it can operate a control device such as a valve or damper motor.

The electronic controller is a very sensitive, yet very simple type of device. It will not wear since it has no moving parts but is a spool of wire which has been coated so as to be unaffected by dust or dirt.

The electronic system is well adapted to controlling central fan systems. It can provide either two position or modulating type of control. Many refinements such as high and low limits, summer-winter operation, compensation, and day-night operation can be incorporated in such a control system.

(To Be Continued)

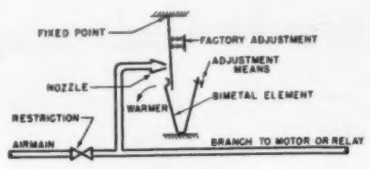

FIG. 12

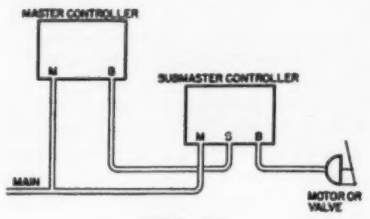

FIG. 14

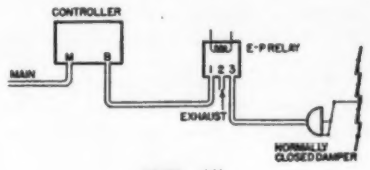

FIG. 15

FIG. 16

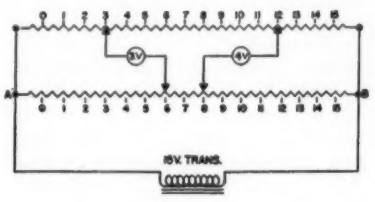

FIG. 17

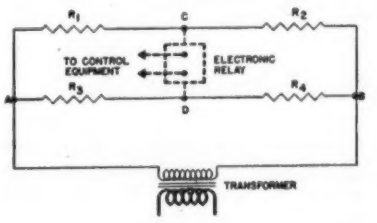

FIG. 18

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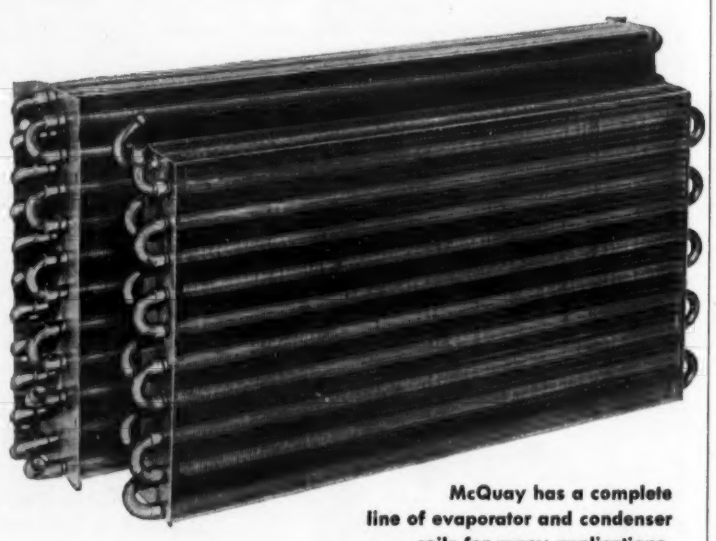

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Current Literature

To obtain further information on the literature listed below, please refer to key number preceding listing. Please use the "Information Center" form on "What's New" page.

Booklet Tells of Frigidaire Products and Their Uses

——KEY NO. P-610——

DAYTON—Frigidaire's role in conditioning air, water, and food is outlined in a new booklet recently published by the General Motors division.

Titled "Our Business Is Being Useful," it contains bright, colorful pages illustrating Frigidaire's commercial refrigeration and air conditioning products, and their various applications and uses in business and industry.

There is also a complete listing of the cities where the company's domestic branch offices and distributors are located.

Hotpoint Booklet Compares Electricity, Bottled Gas

——KEY NO. P-611——

CHICAGO—A new merchandising sales tool, designed to help salesmen point out to consumers the advantages electricity has over bottled gas, has been announced by the utility division of Hotpoint Co.

The new 20-page, two-colored booklet entitled "Electricity Versus Bottled Gas" was designed by Hotpoint and incorporates the findings of independent research organizations and the extensive tests of the housing and household equipment division, Bureau of Human Nutrition and Home Economics, U. S. Department of Agriculture.

The tests, made at the Agricultural Research Center, Beltsville, Md., by the government's top household equipment authorities, produce new comparative figures of efficiency ratios between bottled gas and electricity for cooking, water heating, and refrigerating.

The booklet depicts factors of safety, cleanliness, and speed of cooking with electricity as compared to bottled gas. Charts show comparative operating costs of refrigerators under normal conditions and point up the fact that electric refrigerators are more efficient than bottled gas refrigerators by a ratio of 11 to 1; electric ranges over bottled gas ranges by 2 to 1, and electric heaters over bottled gas water heaters by 2 to 1.

Offer Data on Time Switch For Room Air Conditioners

——KEY NO. P-612——

CHICAGO — A new 16-page booklet describing automatic control for room air conditioners has recently been made available by International Register Co. here.

The automatic time control feature turns the unit on and off at preset times.

The new booklet (No. NR44) explains automatic control in detail and gives complete description and technical data on the new "Skipper" portable plug-in time switch.

It tells about the Intermatic skipping device which enables the user to omit operation of the air conditioner on weekends, holidays, or other selected days when the home or office will be unoccupied.

Conrad Data Sheets Cover Chambers, Liquid Chillers

——KEY NO. P-613——

HOLLAND, Mich. — New data sheets on environmental chambers and liquid chillers have been issued by Conrad, Inc. here.

The sheets on the front-opening and chest-type chambers show the interior dimensions and the various combinations of environment available. Information on the portable laboratory-type liquid chillers gives the gross B.t.u. capacity per hour for eight standard models. Specifications of the chambers are also listed.

M. Brazer & Son Publishes 1954 Estimating Catalog

——KEY NO. P-614——

PASSAIC, N. J.—The 1954 Estimating Catalog of M. Blazer & Son, here, wholesaler and manufacturer of heating, ventilation, refrigeration, and air conditioning equipment and supplies has recently been released. This 36-page pricing guide covers over 80% of the items normally used by contractors and engineers in the above fields.

Descriptive sales talk has been eliminated and data has been reduced to that bare minimum required to make a selection. Covered are fans, blowers, compressors, accessories, fittings, pumps, coils, condensers, valves, motors, V-belt drives, grilles and registers, air conditioners, chillers, etc.

Introduced with this issue is the company's own line of cooling towers and evaporative condensers in sizes to 150 tons.

Drayer-Hanson Offers New 'Spotaire' System Bulletin

——KEY NO. P-615——

LOS ANGELES — A four-page, two-color bulletin, No. C-4.23, describing the Drayer-Hanson "Spotaire" year-round air conditioning system for hotels, motels, and apartments, is now available from the company.

This system utilizes individually-controlled room blower units with cooling-heating unit located remotely, it was explained. Hot or cold water is piped through finned coils in the blower units, where a large, slow-speed fan conditions the area to the desired temperature.

Included in the bulletin is a photo of an actual "Spotaire" installation in the Flamingo hotel, Phoenix, Ariz.; a table giving construction and performance data; dimensional diagrams; and pictures of both blower and compressor units. Both HRC (wall or ceiling) unit, and VRC (floor) unit are pictured.

Nor-Lake Sheet Describes Three Upright Freezers

——KEY NO. P-616——

HUDSON, Wis. — Three Nor-Lake upright freezers are described in a two-page catalog sheet recently issued by Nor-Lake, Inc. here.

The two-color literature lists the advantages and construction features of Nor-Lake's 27, 20, and 17-cu. ft. upright freezers, including photos of the first two and complete product specifications for all three.

High-density "Fiberglas" insulation, heavy-gauge steel exteriors, aluminum interior liners, and coiled copper tubing on interior aluminum shelves are responsible for efficient and economical operation, according to the manufacturer.

Westinghouse Catalogs Aid Plant Engineers

——KEY NO. P-617——

BOSTON — Two catalogs—one on commercial and industrial heating and ventilating units, the other on air conditioning units—are available from the Westinghouse Electric Corp., it is announced.

Using these two 40-page catalogs, plant engineers now can plan, specify, and order the proper units to solve almost any problem involving the moving, heating, or cooling of air, the company says.

Each catalog is divided into five separate data sections: descriptive, performance, layout, engineering, and service.

Heating and ventilating units are covered with air volumes ranging from 1,200 c.f.m. to 23,000 c.f.m.; heating capacities from 100,000 B.t.u. to 2,500,000 B.t.u. Air conditioning units range from 1,200 c.f.m. to 21,000 c.f.m. air volume; cooling capacity from 20,000 B.t.u. to 2,000,000 B.t.u.

Of particular help in selecting a unit size, a step by step procedure is included and several hypothetical problems are calculated following this procedure. These problems show the proper use of performance data, curves, and charts in selecting the correct unit.

Of further aid to the plant engineer are typical specifications that can be used as a guide in selecting units for his particular installation.

Maintenance instructions discuss bearing lubrication, replacement of filters, fan belt adjustment, and dirt removal from coil surfaces.

Copies of Catalog 1620 (Heating and Ventilating units) and Catalog 1630 (Air Conditioning units) are available from Westinghouse Electric Corp., Sturtevant Div.

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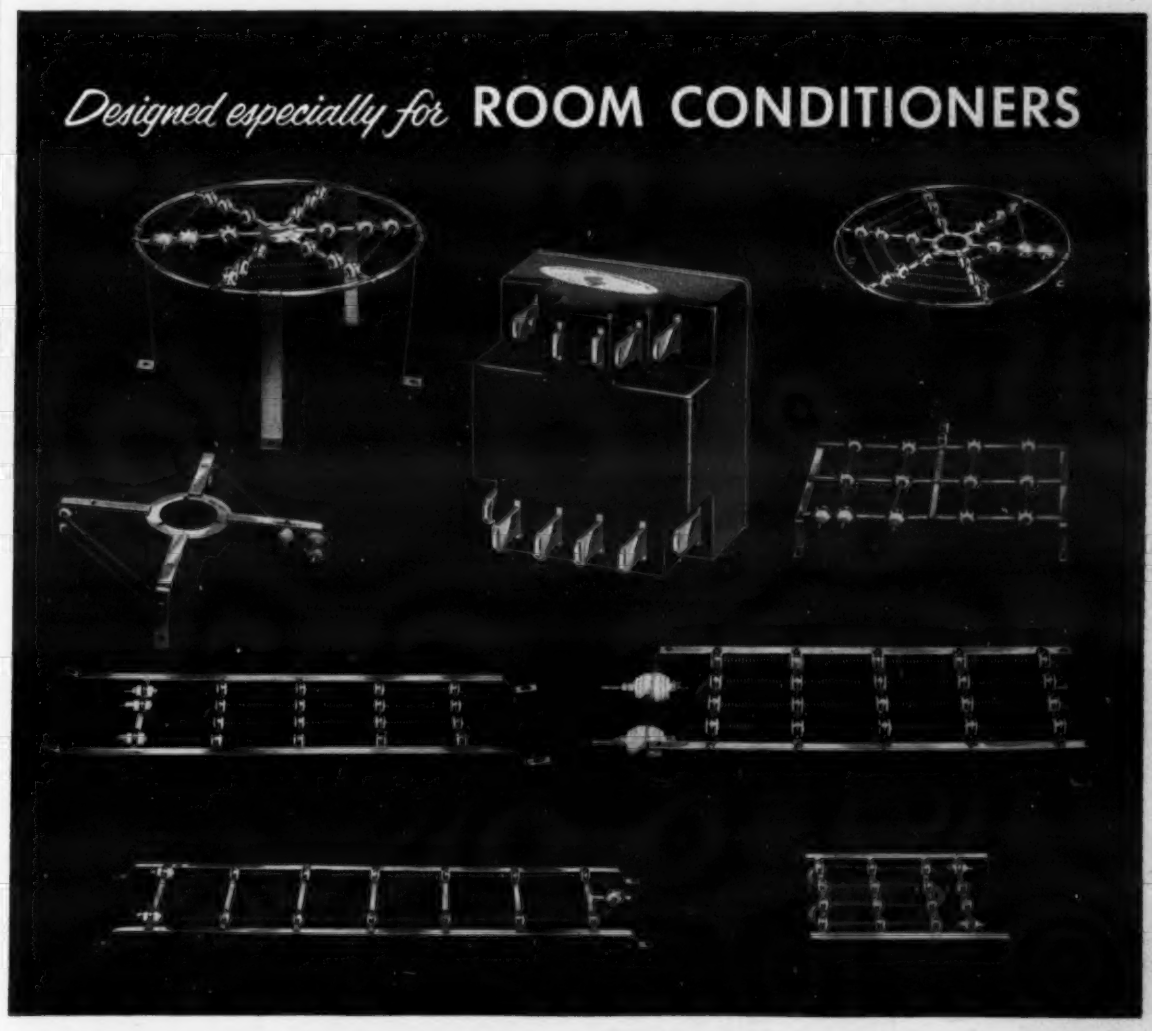

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Residential
Air Conditioning

Merchandising Plan

Low Original Cost and Long Term Financing In New Home Makes Payment Low Enough To Minimize Buyer Resistance

LINCOLN, Neb. — Ervin E. Peterson, president of the Peterson Construction Co., who has built over 1,200 houses in Lincoln during the past 21 years, has launched a merchandising plan for central air conditioning which he believes will result in selling more than 400 air conditioned homes here in the next few years.

Conditions are ripe for such air conditioning, he feels, especially in houses selling around $20,000 and up.

CENTRAL AIR CONDITIONING HELPS SELL HOMES

The Lincoln builder has lived in Nebraska all his life and he knows what to expect from the weather. Temperatures of 100° F. and above are common in the Lincoln area in the summertime. Relative humidity regularly measures 70 to 80%. He has already learned that central air conditioning is a distinct asset in selling new homes in the summer.

Peterson is convinced the time has come, particularly in better homes, when air conditioning will be a necessity rather than a luxury. He recalls that insulation was considered a luxury a few years ago. Now no one would think of building a house without it.

The price range where air conditioning starts to become a necessity, he continued, is in houses at $15,000 to $20,000. However, he has recently completed and sold some $12,000 houses with mechanical cooling.

Five years ago the contractor first experimented with central air conditioning. Water coil units were the only kind available at a feasible price at that time.

Forty houses were built with water coil cooling. All were sold and purchasers expressed satisfaction, although humidity control wasn't all that might have been desired.

Since that time, mechanical air conditioning has been made available at a figure within reach of the average homeowner, he stated.

Little buyer opposition to air conditioning cost has been encountered by the contractor, especially in houses costing $20,000 and up. This isn't so surprising, he said, when actual cost is considered.

COST IS LOWER IF SYSTEM IS SPECIFIED PRIOR TO COMPLETION

Cost of the Bryant 2-ton unit, which he sells, is $820 in a Peterson-Preferred home, if the purchaser specifies air conditioning prior to completion. If the decision is made later, the unit costs $900. Figuring the cost at $820, the homeowner pays 10% or $164 down with a 25-year loan. Monthly payments come to $3.90.

If the buyer takes a three-year FHA Title One loan, he can get the air conditioning with no down payment. Monthly payments come to $26.19.

Better humidity control has been obtained when a smaller unit is used and it runs more constantly, Peterson said.

Cost of operating the air conditioning system has averaged about $65 per year for electricity and water. Lincoln city water is colder than in most cities, Peterson pointed out, so the water bill is less than it would be in Omaha, for instance.

EXPECTS NUMBER TO SKYROCKET

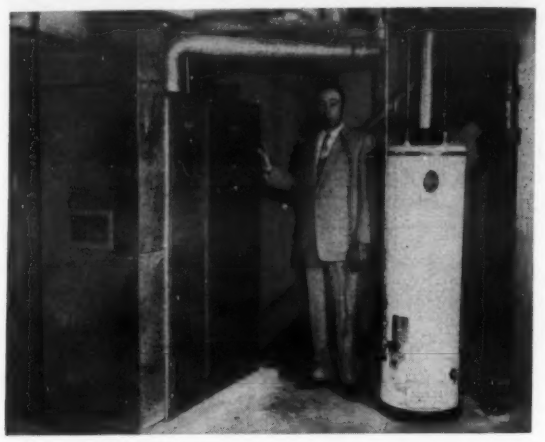
The Lincoln firm has installed central air conditioning in a dozen houses to date. The number will skyrocket soon, however, as a result of two new Peterson developments. One of these is South Hills where 160 homes will be built. Several starts have already been made. Some of these, priced as low as $12,000, have been sold with 2-ton Bryant units.

Biggest development will be Park Manor, a tract of 120 acres, which will have about 450 homes when completed. More than half of the latter will be priced at $25,000. Peterson expects to have 100% central air conditioning at Park Manor.

INITIAL PLANNING CAN CUT COSTS

A good share of the cost of air conditioning can be saved in initial planning, Peterson explained. The cooling load can be reduced 50% through proper construction, he declared. This includes adequate overhang and use of windows.

"Windows should be used sparingly in the home planned for air conditioning," he asserted. "Homeowners don't need the breeze from bedroom windows with year-round air conditioning. Every such window eliminated in construction saves about $50 for the home buyer.



ERVIN E. PETERSON, president of Peterson Construction Co., looks over a 2-ton Bryant air conditioner and matching gas furnace in the basement of one of his $12,000 homes in Lincoln, Neb. Peterson is convinced that the time has come when air conditioning will be a necessity rather than a luxury in better homes.

DUCTWORK GOING INTO $12,000 HOMES

Even in its new $12,000 houses, the Peterson firm now is putting ductwork and arrangement so an air conditioner can be added. In some of these houses the hot water heater is installed in the place normally occupied by the air conditioner. A knock-out plate is installed so it will be a simple job to put a matched air conditioner alongside the gas furnace.

One of the points that sells air conditioning, he has found, is humidity control. This is especially noticeable in the basement. It makes the basement much more liveable, while drapes last longer.

Air conditioning particularly pleases the housewife because of lightening the dusting and housecleaning chores, in addition to the added comfort. Some of the new owners say they are saving on entertainment and vacation costs. They don't want to leave the air conditioned home so often, Peterson explained.

Plan To Air Condition New Exposition Building Annex

HIGH POINT, N. C.—H. L. Coble Construction Co., Greensboro, has been awarded a contract for the construction of a 66,000-sq. ft., 10-story addition to the Southern Furniture Exposition building here.

It will cost an estimated $460,000. Plans call for air conditioning of the new annex and a cafeteria in the basement.

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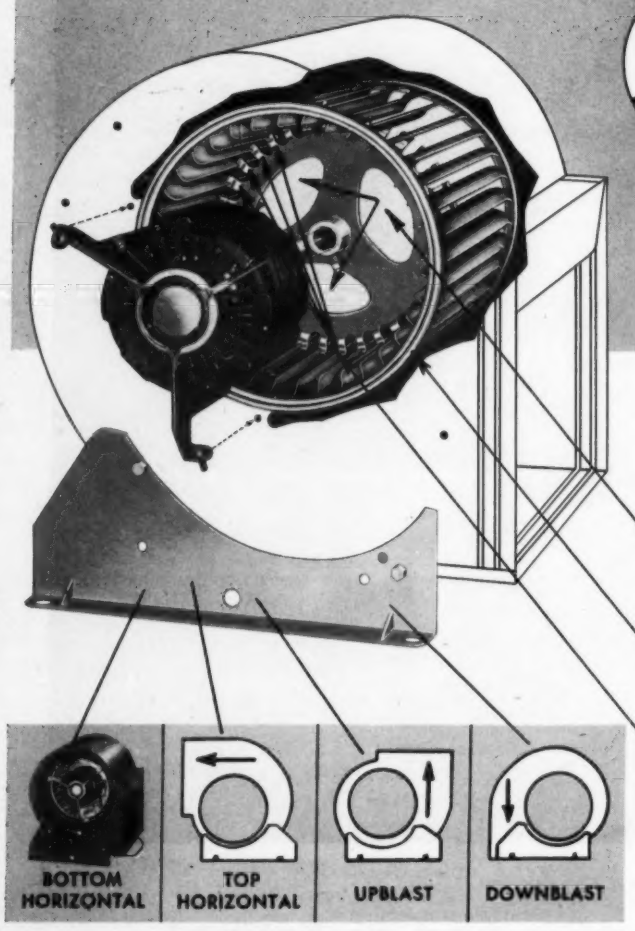

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Model Numbers	Dimensions without feet			CFM
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D-99	14¾"	12¾"	15½"	1000 at .62" S. P.
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A few copies of the April 19 AIR CONDITIONING SPECIFICATIONS issue are still available. Get copies of this outstanding issue for your key employes—complete specifications on self-contained room coolers, store coolers, and residential air conditioning units.

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Research Test Homes Opened--

(Concluded from Page 1)

the research studies.

The unique experiment is sponsored by the Research Institute of the National Association of Home Builders, in cooperation with more than 50 other organizations and companies, including the University of Texas, the Air-Conditioning & Refrigeration Institute, and the National Warm Air Heating & Air Conditioning Association.

Austin was picked as the site for this project because of the extremes of heat and cold experienced there.

The research project is expected to produce important data on the cost and operating efficiency of home air conditioning that will help to make this extra comfort available to the great mass market of home buyers in the middle and low-income brackets.

The research homes, each containing about 1,100 sq. ft. of living space, were built by 22 members of the Austin Home Builders Association. All are modern, single-level houses with three bedrooms, 2 or 1½ baths, and two-car garages or carports, and all have been completely landscaped.

Masonry, wood, and combinations of both have been used in construction of the village, and a wide range of housing styles was employed in order to provide as much data as possible for the research investigators.

A number of the new homes have built-in electronic instruments to keep an hour-by-hour record of temperature changes within houses and of the effect of conditioned air on materials and fabrics.

Special mobile laboratories mounted on trailer-trucks will make periodic tours of the village to test homes not so equipped.

In addition, medical technicians and psychologists from the University of Texas staff will make a continuing study of the physical health and mental attitudes of the families living in the research village.

One important question to which they are seeking answers is whether filtered air at controlled temperatures reduces the frequency of colds and relieves hay fever sufferers and victims of other allergies.

From the industrial standpoint, the research teams are trying to find out precisely how much it costs to operate a year-round air conditioning system, and what effect various building materials have on the efficiency of the system.

Among other things, they want to know the heat gain and loss factors of different colored paints used on the outside of an air conditioned home, what colors and textures provide the best roofing surface, and the effect of shading devices like awnings and curtains on room temperatures.

The Federal Housing Administration and the Veterans Administration, which have not yet adopted a formal uniform policy on the financing of air conditioning for medium and low-cost homes, also are studying the project in order to obtain accurate cost data for future mortgage appraisals.

Ned A. Cole, Austin architect and home builder who is chairman of the National Association of Home Builders' Air Conditioning Committee and manager of the research project, said a public report of data obtained from the air conditioned village will be issued at the end of the summer.

A second report will be made public at the close of the 1954-55 winter heating season, and a final report will be issued in June, 1955, at the close of the test year.

See 2 Million Homes Cooled Within 5 Years

AUSTIN, Texas — Within the next five years there will be 2 million fully air conditioned homes in America, W. F. Switzer, air conditioning sales manager for Frigidaire Div. of General Motors, forecast here, while attending the opening of air conditioned research village.

Frigidaire unveiled a new year-round air conditioner of 2-ton cooling capacity, installed in one of the test homes. A 3-ton Frigidaire model was introduced earlier this year. Switzer said the new unit will go into production "the latter part of this month."

Switzer said that technical advances in the industry are reducing the cost of residential air conditioning materially. Year-round equipment for cooling and heating an entire 6-room home now costs about the same as two small room coolers did 25 years ago "when we were producing the first room air conditioners."

Schmitt Joins Norman as Refrigeration Engineer

COLUMBUS, Ohio—E. A. Norman, Jr., president of the Norman Products Co. here, announces the appointment of H. C. Schmitt as the firm's new refrigeration engineer in charge of residential cooling.

H. C. Schmitt

In his new capacity Schmitt will be in charge of the field education program for the Norman winter-summer air conditioner, the horizontal package air conditioning unit recently developed by Norman Products.

Schmitt will soon be conducting technical schools for the Norman sales organization over the country to familiarize the men with the sales and installation of Norman air conditioning equipment.

As a member of the engineering department Schmitt will also supervise the technical writing of air conditioning specifications as well as the service and installation detail of the Norman winter-summer air conditioner.

Schmitt comes to Norman from the Lennox Furnace Co. where he was employed in laboratory work as chief field engineer for Lennox air conditioning equipment.

Wholesalers Plan Outing At Marinette June 17-18

MARINETTE, Wis.—Refrigeration wholesalers from the central states will hold their annual summer outing at Marinette, Wis. this year. On June 17 and 18 they will be guests of the Ansul Chemical Co., the company has announced.

The outing, which will include members of REWA Group 6, is being organized by Herman Goldberg of the Herman Goldberg Co., Chicago. Helping out at the Marinette end are Tom Plouff and Bing Billings of Ansul's refrigeration sales division.

Highlight of the trip will be golf at Riverside Country Club and boating on Green Bay. The welcome mat will also be out for visitors at Ansul's plant. They can cool off in the refrigeration laboratory or get hot on the Ansul Test Field.

Dinner on Thursday night, June 17, is scheduled for Riverside Country Club, while on Friday the scene will shift to Red 'n Ed's, famous northern Wisconsin steak house.

It's Aerco, Inc.

WICHITA, Kan.—Incorporation procedure has been completed by Aerco, Inc. here, a heating and cooling appliance dealership. The firm has an authorized capitalization of $40,000. L. A. Risen is resident agent.

Why Do People Buy AIR CONDITIONING?

There are *eight reasons why people buy Air Conditioning!* Every dealer, every salesman, and every man who makes his living in air conditioning should know these reasons why people buy. AIR CONDITIONING & REFRIGERATION NEWS gives the answer to this question—and many more in its new 115-page book . . .

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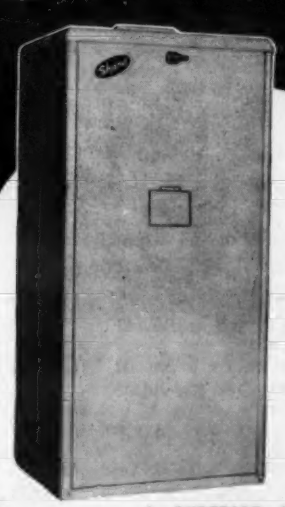

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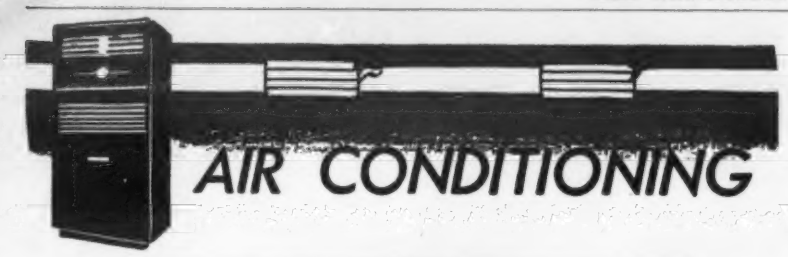


Servel To Increase by 100% Production Of Heavy-Duty Water Chillers for '54

EVANSVILLE, Ind. — Production of heavy-duty water chillers, already increased over last year's rate, has now been doubled again by Servel, Inc.

H. R. Nielsen, manager of Servel's air conditioning division, announced that the development of new uses for chilled water and the increased demand for this equipment had made it necessary to step up the company output by 100% over the original schedule for 1954.

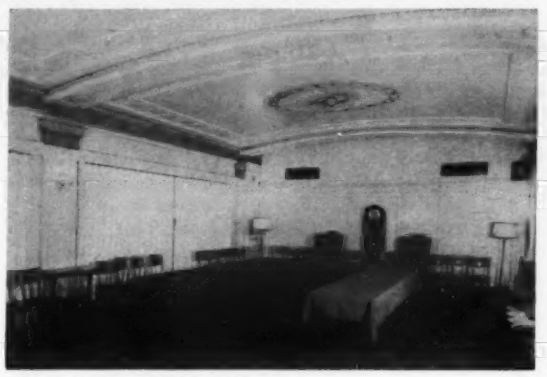
This original schedule already represented an increase over 1953, Servel's best year for air conditioning sales, it was pointed out.

The Servel water chiller is an absorption-type unit that uses steam from any source to produce chilled water for air conditioning or industrial processing. It has a capacity of 25 tons of refrigeration.

"The amazing thing about the water chiller," Nielsen said, "is the large number of new applications that we discover for it from week to week.

"Industrial processors have found it invaluable for air conditioning spaces in which instruments are calibrated, for chilling liquids used in the manufacture of petroleum and chemicals, for cooling tips of aluminum spot welders."

In recent months, steam-operated water chillers have been put to work preserving priceless paintings in the art galleries at the University of Notre Dame, air conditioning an ex-ambassador's new mansion near Washington, canning cherries, cooling movie theaters, providing low-temperature baths for rubber processing, setting the dye used on zipper tape, and controlling atmospheric conditions in a southern university's engineering laboratory.



VIEW OF WEDGEWOOD ROOM showing York 751 package air conditioning unit at end of room.

HAROLD ARENDT (right) explains details of Kramer Unicon to Robert McPherson, hotel manager. Arendt is representative of Ever Ready Refrigeration Co., which handled installation.

Hotel Air Conditioning Allows for Flexible Use of Space

TRENTON, N. J.—When the Hotel Hildebrecht here redecorated its lounge, it did so in a way to make the room "flexible" for use either by large groups or small, and made possible year-round use of the room by the installation of an air conditioning system which also has "flexible" operating characteristics.

The Ever Ready Refrigeration Co. was selected by the Hildebrecht's managing director Robert K. McPherson to make the installation of the 15-ton system.

Because of restrictions on water usage and high water rates the contractor recommended the use of the "Unicon" remote-type air-cooled condenser. This condenser was placed on the roof, thus alleviating one of the problems of finding space for the equipment.

The hotel, in laying plans for redecorating the lounge, decided to make extra use of the large room by closing off one side with folding doors. As a consequence, the full lounge can be used as a large banquet room or it can be used to accommodate two small, separate gatherings.

The dual nature of the room required the installation of two separate air conditioning units. Ralph Elrod of the Ever Ready Refrigeration Co., who supervised installation of the units, specified a Kramer BD-2000 Unicon for use with the two 7½-hp. York 751 package air conditioners which cool the lounge and its adjacent Wedgewood Room.

The BD-2000 is constructed so that it can be used as a one or two circuit condenser. In this instance, each compressor is connected to one circuit of the BD-2000 Unicon.

The Unicon is located on the roof two stories above the compressors. The refrigerant is piped through the kitchen to the condenser—a distance of 60 ft. from the cooling units. Elrod did not hire professional riggers to place the Unicon on the roof. His regular crew, using a rope tackle, easily raised the Unicon into position, he reported.

With this most recent installation, McPherson boasts that every meeting room and dining and grill space in the Hildebrecht is air conditioned.

During the past two years he has been increasing the installation of window units throughout the hotel and anticipates continued increases during each passing year.

Cox Heads Sales, Distribution Planning Unit for G-E Weathertron Department

BLOOMFIELD, N. J.—Formation of a sales and distribution planning unit in General Electric Co.'s Weathertron Dept. has been announced by H. L. Williamson, department manager of marketing.

William G. Cox has been appointed manager of the new unit. Prior to his new assignment, he had been Weathertron Dept. manager of product planning. He is succeeded in the latter post by William B. Hall, formerly design supervisor in the product planning department of the G-E Major Appliance Div., Louisville, Ky.

With G-E since 1936, Cox has spent his entire company career in refrigeration and air conditioning posts.

He has been successively an application engineer for commercial refrigeration, technical copywriter for air conditioning equipment, sales planner for large air conditioning equipment, and assistant to the sales manager of the G-E Refrigeration Machine & Remote Equipment Div.

He has worked on several G-E management studies, market growth studies, and sales training activities.

Cox is an electrical engineering graduate of California Institute of Technology and is a member of the American Society of Heating & Ventilating Engineers, and the American Society of Refrigerating Engineers. He is active on air conditioning and refrigeration trade committees.

Hall has held positions in design engineering with Vultee Aircraft Corp. and A. O. Smith Corp., and has practiced as a private consulting industrial designer. He joined G-E in 1950. He is a graduate of the University of Michigan and a Navy Air Corps veteran.

Check the reasons why the popular choice for summer cooling and winter heating is

the individually-controlled unit that filters and circulates the air all year 'round in central-plant, multi-room installations

Architects, builders and heating contractors like the Remotaire because it's versatile, easy and economical to install, space saving.

Building owners like the Remotaire because it provides healthful, draft-free comfort conditioning all year 'round with minimum attention.

- Same simple piping circuit supplies chilled water for summer cooling, hot water for winter heating. No unwieldy ductwork needed.
- The Remotaire is adaptable to the best system for the job—Wall Aperture System, Interior Ventilation System, Well Water System, Split-coil System, Motel System, Residential System, Modernization System.
- Units can be installed recessed, partially recessed or free-standing.
- Three popular sizes to choose from—200, 400, 600 cfm. A size for every job.
- Easy to service. Every part of the assembly can be reached easily, quickly.
- Easy to maintain. Motor assembly can be taken out and replaced in less than 15 minutes.
- Reversible coil is designed for right or left hand connection. Easily reversed in the field.
- Special electrical junction box is easy to get to.
- Sturdily built . . . doesn't have to be pampered in installation. (Reinforced grille will support weight of 200 lb. man!)
- Each unit is individually controlled . . . temperature in each room can be changed without affecting adjoining space.
- The Remotaire is quiet. No whistling-jet noises.
- Handsome jacket, furnished in semi-gloss Cooltan, can be painted any color.
- Toe-step offset permits better fitting of rugs around units and eliminates marring of front when cleaning floors.
- Drain pan protection. Large pan runs entire length of unit to prevent condensation drip. Grille shield prevents foreign matter from entering through top.
- Large filters . . . keep air fresh and clean.
- Adjustable damper. Amount of air intake can be changed at any time.
- Wall seal. Rubber molding around back panel provides air seal between unit and uneven plaster.

For further information on the Remotaire see Sweet's Architectural File or contact your nearest American-Standard sales office for descriptive literature.

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Write for Catalog Page 707-14

THE LAU BLOWER COMPANY
DAYTON 7, OHIO
World's Largest Manufacturers of Air Conditioning Blowers

New Railroad Reefer Has Diesel-Driven Condensing Unit and Holdover Plates

CHICAGO — A new type mechanically refrigerated railway car was recently previewed by officials of the Chicago & Northwestern Railway system here.

Converted for mechanical refrigeration by North American Car Corp., the equipment was designed by the joint efforts of Dole Refrigerating Co., Saylor Beall Mfg. Co., and Fairbanks Morse Co.

"The system consists essentially of a diesel driven condensing unit and holdover plates," Dole said. "This is distinctive in that by driving the condensing unit directly from the diesel engine, all electrical equipment and most electrically operated control devices are eliminated, thus increasing the reliability and efficiency of the unit as a whole and reducing the amount of space required.

"The engine and condensing unit are installed in the space formerly occupied by one ice bunker and the other ice bunker is now available, providing approximately 10% additional cargo space. Holdover cold plates located in the ceiling occupy the same space formerly required for air circulation.

This is the only unit with this unique design and is not only adaptable to new car construction, but also lends itself readily to the conversion of existing cars with a minimum of modification and expense.

"The test car displayed is equipped with a 16-hp. Fairbanks Morse diesel unit driving a 4-cylinder compressor. A specially-designed condenser and by-pass arrangement designed by Saylor Beall Mfg. Co. completes the high side of the equipment.

"The low side consists of Dole holdover plates which, besides providing direct evaporator surface, also provide product insurance by their ability to maintain temperature even though the condensing equipment is not in operation. This feature permits the elimination of the electric standby unit.

"While this car is designed primarily for low temperature application and is capable of maintaining temperatures as low as -15° F. it can be automatically controlled to maintain any desired temperature."

New Kroger Unit Cooled

WEBSTER GROVES, Mo.—Air conditioned, Kroger's new supermarket, 642 E. Lockwood Ave., held its formal opening recently. The new building measures 110 ft. by 135 ft. on one floor, with 2,000 sq. ft. of basement storage area.

MANITOWOC model 22 freezer.

Manitowoc Freezer--

(Concluded from Page 1, Col. 2)

door pulls, breaker strips, and gasket are used on the freezer interior.

Manitowoc "Cold-Hold" inner doors close on each of five compartments of this freezer to protect food packages from frost-forming outside air that makes packs stick together, the company pointed out. The double doors snap back for access to the compartments.

As in other Manitowoc freezers, model 22 uses "Cold-Wall" construction with coils on all five freezer walls.

"Frost forms only on side walls, and during defrosting, it loosens quickly, and drops down smooth side walls to bottom shelf where it's easy to sponge up," the company explained.

The radiant condenser is being used on the model, and is located at the back of the freezer.

Introduction of this model increases the Manitowoc upright freezer line to five models, plus the "2-Zone" refrigerator-freezer combination.

Tecumseh Plant--

(Concluded from Page 1, Col. 5)

and capacity. Danville is close to the Indiana border, about half-way down the length of Illinois.

Layton and Smith revealed that Danville was selected as the new plant site after months of investigation throughout the United States, because of its geographic location, ample water supply, transportation facilities, and abundance of electricity and gas supplies.

"It gives our customers another source for our product and practically guarantees overnight delivery," Smith said.

The plant is expected to employ 500 people at the start with a production goal of 1,500 units per day with the facilities now planned. The acreage purchased leaves room for expansion to another plant unit or two in the future, Layton declared.

"Several hundred thousand dollars worth of machinery has already been ordered and we should have the new plant in production by Jan. 1 to supplement our manufacturing operations at Tecumseh, Marion, Ohio, and Toledo," Smith stated.

Consumer Credit--

(Concluded from Page 1, Col. 4)

consumers have been reluctant to go into debt to buy cars, appliances, furniture, and the like." To another official, the increase was a "good economic sign" but "smaller than we hoped for."

The increase brought the total for instalment credit to $20.9 billion, $1.1 billion higher than at the same time last year.

Nebraska Studies Curb on 'Foreign' Auctions

LINCOLN, Neb.—State legislation is being considered to curb auctioning of refrigerators and other appliances by out-of-state firms in Nebraska.

State appliance dealers have appealed to state officials for help.

First concerted effort to halt the foreign auctions was made recently by Saline county. An attempt by county officials to collect property tax on several thousand dollars' worth of appliances allegedly trucked into the county by Asoociated Distributors of Chicago proved unsuccessful when an official of the firm produced evidence the property had been assessed for taxes in Chicago.

According to Charles Kroch, president of the Wilber Chamber of Commerce, the Chicago company hauls truckloads of merchandise into rural communities of Nebraska. A hall is rented and the appliances then auctioned off. The sales seriously hurt local dealers who pay local taxes, he declared.

Such sales have been held this spring at Saline Center, Crab Orchard, Barneston, and other small communities in the state, it was stated. A farmer is reported to have purchased $700 worth of major appliances at one sale.

State Tax Commissioner George Peterson said appliances for sale by an out-of-state firm could not be taxed in Nebraska unless the merchandise was in a Nebraska warehouse or store on March 10.

He explained that even if it had been taxed in Illinois, it would have to pay a Nebraska tax if it were here at that time. If the appliances were still in process of movement and had not "settled" in Nebraska, they would not be taxable, he added.

Complaining dealers were advised to seek state legislation.

Frigidaire Sales--

(Concluded from Page 1, Col. 2)

lic acceptance of our 1954 products and prove conclusively that the business is there for those who go after it aggressively," he declared.

The week's whopping sales total was slightly less than Frigidaire's all-time one-week record set in May of last year. Roberts pointed out that most of this difference was the result of the recent reduction in Federal excise taxes.

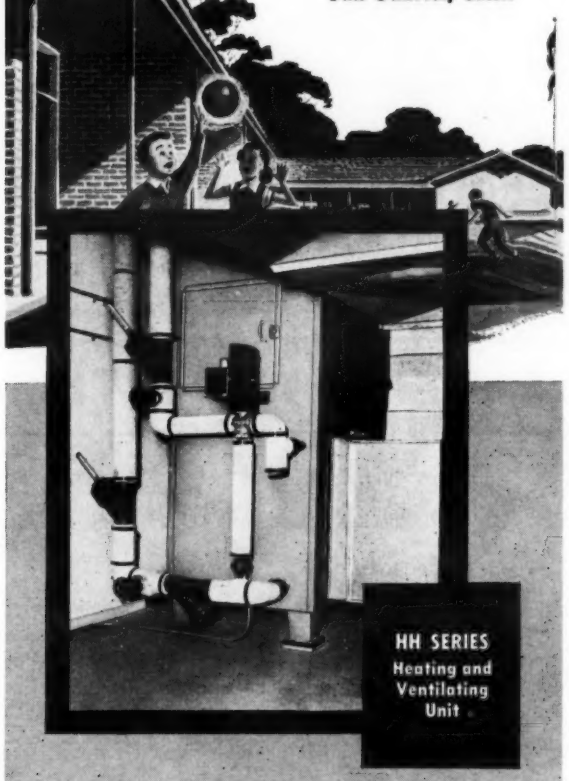
H. F. Lehman, general sales manager, reported that Frigidaire's advertising program this year is the biggest in the firm's history.

Plugs Room Units with Free Installation Offer

TOLEDO—Shea's here is promoting the sale of unit air conditioners with a free installation offer, where special wiring is not required.

Again...It's Drayer-Hanson!

in the new Carver School, San Gabriel, Calif.



In important installations everywhere . . . units like this are giving the dependable, long-lived service which keynotes Drayer-Hanson products.

When your prospects say, "year-'round air conditioners," *compare,* feature by feature. You're bound to specify D-H!

With HH's, you can choose your arrangement: horizontal (HH), or vertical (HHV) units. 13 sizes, to 28,000 CFM. Coils for water, steam, direct expansion—or a combination.

You can't mistake them! *The extra features* you find in HH's are solving tough air conditioning problems, the country over.

Investigate! *Full details, request Bulletin C-4.20.*

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INCORPORATED
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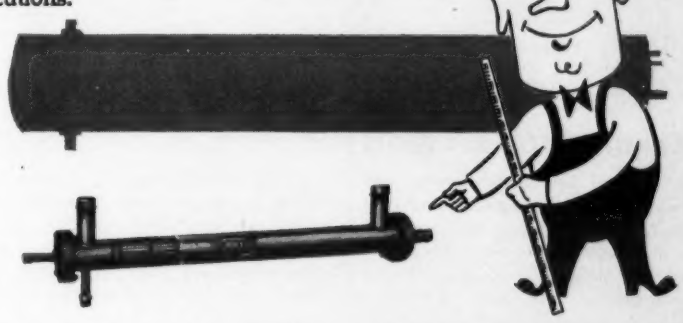
MOUNT VERNON, N. Y.

IT'S HERE... THE MOST COMPACT LIQUID CHILLER EVER MADE!

...with HEAT-X INNER FIN

HEAT-X *Inner-Fin* Chillers . . . compact, high capacity direct expansion evaporators for use in chilled water air conditioning systems and on other liquid cooling applications.



Compare the size! These drawings . . . made to scale . . . illustrate the space-saving possible with these new Chillers. Patented Heat-X *Inner-Fin* construction makes the difference. Copper inner-fins in the refrigerant passages greatly increase heat transfer efficiency . . . permit smaller size and lower cost.

Water passages of Heat-X Chillers are of non-ferrous construction to eliminate any possibility of corrosion. Because they are single pass, there is no oil trapping problem.

Capacities of Heat-X *Inner-Fin* Chillers cover the range from 3 to 35 tons. Selection of water baffle spacings is available to meet a broad range of water pressure drop requirements. Two inch thick rock cork insulation with sheet metal cover is available on all models.

Request free descriptive bulletins No. 1037 and 1038.

HEAT-X-CHANGER CO., INC.
BREWSTER • NEW YORK

Government Contracts

PROCUREMENT INFORMATION

The following is a list of proposed procurement issued by the various indicated U. S. Government procurement offices. Prospective bidders may obtain complete bid sets by a request to the purchasing office under which the purchase is listed in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date.

DEPARTMENT OF DEFENSE

Description	Quantity	Invitation No.	Opening Date
Headquarters, Field Command, Armed Forces Special Weapons Project, Sandia Base, Albuquerque, New Mexico			
Cooler, evaporator, rotating drum or water slinger type, in the following sizes. To be in strict accordance with Specifications attached hereto and made a part of this Invitation.		(S29-004-54-122)	7 Jun 54
10,000 c.f.m.	11 ea.		
7,000 c.f.m.	8 ea.		
5,500 c.f.m.	13 ea.		
4,000 c.f.m.	4 ea.		
Commanding General, Ordnance Tank Automotive Center, Detroit, Michigan			
Blade fan, Mfrs. Pt. No. IHC-9957OR91 or equal SNL G744.	1726	54-692-B	8 Jun 54
San Antonio Air Materiel Area, McClellan Air Force Base, McClellan, California			
Invitation for Bid (B) and Request for Proposal (Q) are distributed to firms listed in the Bidders List maintained by the above activity. A complete bid set is available for EXAMINATION ONLY by prospective bidders at the Air Regional Offices located in the local trading area of the above activity.			
Air conditioning refrigerating equipment and parts.	14 items	123-B Local Purchase.	7 Jun 54
Corps of Engineers, U. S. Army, Office of the District Engineer, Omaha District, 1709 Jackson St., Omaha 2, Nebraska			
Construction of motor Inclosures and Electrical Work, Forge Shop, Building 501, Twin Cities Arsenal, Minneapolis, Minnesota. All contractors interested in inspecting the site of the proposed work should contact the office of the Resident Engineer, Corps of Engineers, Twin Cities Arsenal, Minneapolis, Minnesota. The work will include: Heating and Ventilating Plans, specifications, and proposal forms will be furnished by this office upon request to the District Engineer, Omaha District, Corps of Engineers, 1709 Jackson St., Omaha 2, Neb., Attn.: Construction Div. Plans and specifications will be on file in this office and in the office of the Resident Engineer, Corps of Engineers, Twin Cities Arsenal, Minneapolis, Minn., where additional information concerning the proposed work may be obtained. Plans and specifications will also be available for inspection at the following places: Kansas City District, Corps of Engineers, 601 Davidson Building, Kansas City, Mo. Denver Area, Corps of Engineers, Building No. 52, Denver Federal Center, Denver, Colo. St. Paul District, Corps of Engineers, 1217 U. S. Post Office & Customhouse, St. Paul, Minn. Chicago District, Corps of Engineers, 475 Merchandise Mart, Merchandise Mart Plaza, Chicago 54, Ill.	Job	(ENG-25-066-54-85)	17 Jun 54
Base Procurement Division, EWMP, Building 120, Wright-Patterson AFB, Ohio			
For re-insulation of cold cells and plenum chamber Building 25A, Area "B."		(IFB 33-601-54-127-B)	7 Jun 54
Purchasing and Contracting Office, Langley Air Force Base, Virginia			
Addition to Building No. 123 and installation of Air conditioning, Langley Air Force Base, Virginia.	Job	(44-600-54-58)	8 Jun 54
Commanding General, Ordnance Tank Automotive Center, Detroit, Michigan			
Semitrailer van refrigerator 7½ ton 2 wheel M349.	46	54-724-B	11 Jun 54
Officer in Charge of Construction, Ninth Naval District, Building 1-A, Great Lakes, Illinois			
Construction of a brick and concrete block one-story and basement building of approximately 14,700 sq. ft. ground area including the heating and ventilating. Work located at the Naval Training Center, Great Lakes, Illinois. $20.00 deposit required for plans and specs.	Job	40740	11 Jun 54
Supply Department, Puget Sound Naval Shipyard, Bremerton, Washington			
(1) Air conditioning plant, chilled water steam jet type complete with controls.	3 ea.	646-54B	18 Jun 54
(2) Repair parts, on board for item 1.	1 set	646-54B	18 Jun 54
(3) Drawings, electrical and mechanical for item 1.	1 set	646-54B	18 Jun 54
(4) Instruction books, for item 1.	60 ea.	646-54B	18 Jun 54
(5) Repair parts, stock, for item 1.	1 set	646-54B	18 Jun 54
Chicago Quartermaster Depot, Quartermaster Purchasing Div., Chicago, Illinois Bid forms now available, do not request after opening bid.			
Range, electric, table top, Spec. W-R-101A.	1304 ea.	54-24/Q/	8 Jun 54
General Stores Supply Office, 700 Robbins Ave., Philadelphia 11, Pennsylvania			
Tubing, seamless copper, refrigeration, type K, hard drawn form 1, deoxidized, Fed. Spec. WW T 799A Amend 1.	250 ea.	2 2112B	22 Jun 54
Tubing, refrigeration, deoxidized and dehydrated, Fed. Spec. WW T 799A Amend 1.	2000 ci	2 2112B	22 Jun 54
Contracting Office, Clovis Air Force Base, Clovis, New Mexico			
Furnish all larbor, equipment, and materials and perform all work for constructing 25' x 40' concrete block building, for use of Base Veterinarian for Food Inspection Facilities, including installation of heating, ventilating, and air conditioning system.	Job	(IFB-29-606-54-29"B")	11 Jun 54

GENERAL SERVICES ADMINISTRATION

Business Service Center, General Services Administration, Region IV, 50 Seventh St., N.E., Atlanta, Georgia			
Ventilating fans in skylight, U. S. Post Office, Columbus, Miss.	Job	CR4-796	21 Jun 54
Business Service Center, General Services Administration, Region 3, 7th & D Sts., S.W., Washington 25, D. C.			
Air conditioner and cooler tower.	1 ea.	4H-45564-R	15 Jun 54
Air conditioning Univac Federal Office Bldg. No. 3, Suitland, Md.	Job	(GS-R3-B-3408)	8 Jun 54

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS

National Advisory Committee for Aero., Langley Field, Va.			
Gas, refrigerant, compressed dichlorodifluoromethane yearly running contract.	As Req.	L-6878	15 Jun 54

CONTRACTS AWARDED THROUGH MAY 21

General Services Administration, Business Services Center, 1114 Commerce St., Dallas, Texas
New Orleans, La., P.O. & Courthouse, Project No. CR-754-317. New Cooling Towers & Evaporative Condensers, etc.—Job, $18,957.—J. L. Rumold, 2027 Royal St., New Orleans 16, La.

General Services Administration, Business Service Center, Region 3, and E, 7th & D Sts., S.W., Washington, D. C.
¾-Ton Air Conditioning Units, Window Type.—75 ea., $13,425.—Frigidaire Sales Corp., 2315 Cecil Ave., Baltimore, Md.

Purchasing and Contracting Branch, Fort Bragg, N. C.
Air Conditioning of Buildings, Hospital #2, Fort Bragg, N. C.—Job, $37,700.—Ross & Witmer, Inc., 1641 W. Morehead St., Charlotte, N. C.

Purchasing & Contracting Office, Fort Sill, Oklahoma
Air conditioning service club No. 1, Building No. 1721, Fort Sill, Oklahoma. 34-031-54-NA-4.—Job, $33,152.—Kay Engineering Co., 127 N.W. 13th, Oklahoma City 3, Okla.

CONTRACTS AWARDED THROUGH MAY 28

Officer in Charge of Construction, Bureau of Yards & Docks Contracts, Ninth Naval Dist., Bldg. 1-A, Great Lakes, Ill.
Replacement of Condensate Return Lines in 21 Buildings at the Naval Hospital, Great Lakes, Ill. NOy-83038.—Job, $42,478.—N. A. Thomas Co., 943 N. Marquette St., Racine, Wis.

General Services Administration, 219 S. Clark St., Chicago 4, Illinois
Water Coolers.—340 ea., $40,002.—Sunroc Refrigeration Co., Glen Riddle, Pa.

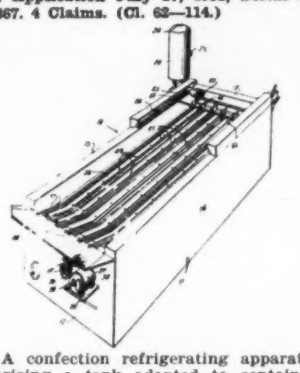
Chicago Quartermaster Depot, U. S. Army, 1819 W. Pershing Rd., Chicago 9, Illinois
Refrigerating Unit, Gasoline Engine Driven, ½ Ton cap. 54-218B.—27 ea., $31,178.—Keco Industries, Inc., 2832 Spring Grove Ave., Cincinnati, Ohio.
Spare Parts & Tools for above item.—27 sets.
Refrigerating Unit ½ Ton cap. Gasoline Engine Driven. (Q).—27 ea., $27,270.—U. S. Thermo Control Co., 44 S. 12th St., Minneapolis 3, Minn.
Spare Parts & Tools for above item.—27 sets.
Refrigerator, Mechanically Cooled, 8 cu. ft. capacity, 54-233B.—6091 ea., $583,119.—Westinghouse Electric Corp., 1625 "K" St., N.W., Washington 6, D. C.

Bureau of Ships, Washington, D. C.
Chilled Water Cooling Coils (549-786/.1).—332, $167,572.—McIntyre Engineering Co., Inc., So. San Francisco, Calif.

PATENTS

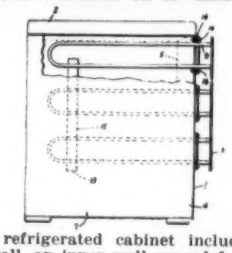
Week of February 23 (Continued)

2,669,852. REFRIGERATING APPARATUS FOR PRODUCING FROZEN CONFECTIONS. Larry J. Nauroth, Dallas, Tex. Application July 27, 1951, Serial No. 238,867. 4 Claims. (Cl. 62—114.)



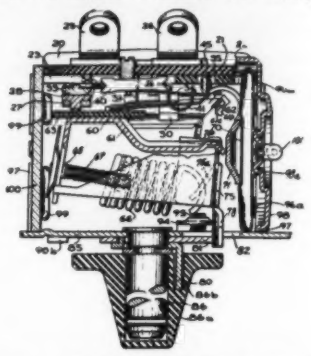
1. A confection refrigerating apparatus comprising a tank adapted to contain a refrigerant liquid and having insulated side and end walls; a perforate deck disposed under the surface of the liquid in said tank and spaced at its ends from the end walls of said tank to form liquid circulating passageways at both ends of the deck, means disposed in the tank below the deck for cooling said refrigerant liquid, a vertical partition depending into said tank from one end of said deck between said refrigerant cooling means and one end of said tank to define one of said passageways, said vertical partition having an opening therein, a series of transversely spaced guides disposed longitudinally on the deck for progressively receiving articles to undergo heat exchange; and means in the opening of said vertical partition for circulating the refrigerant liquid from above the deck through one of said passageways below the deck and upwardly through the other of said passageways and the perforations of said deck to above said deck and into contact with the undersides of the articles on said guides.

2,669,853. REFRIGERATED CABINET HAVING MOVABLE CONDENSER. William G. Spiegelhalter, Erie, Pa., assignor to General Electric Co., a corporation of New York. Application Jan. 5, 1952, Serial No. 265,085. 6 Claims. Cl. 62—117.2.)



1. A refrigerated cabinet including an outer wall, an inner wall spaced from said outer wall, said outer wall including a rear portion and two side portions, a condenser spaced from said rear portion of said outer wall, said condenser comprising a flat sheet and a continuous refrigerant-conducting conduit arranged in serpentine form and secured to said sheet, said conduit including sections extending forwardly from said sheet at each end thereof, each of said sections being disposed in heat exchange contact with a corresponding one of said side portions of said outer wall.

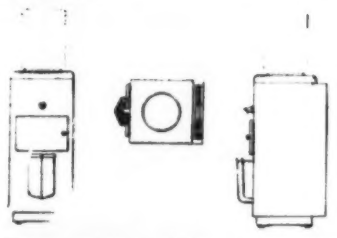
2,670,417. PRESSURE RESPONSIVE SWITCH. Estel C. Raney, Delaware, Ohio, assignor to Ranco Inc., Columbus, Ohio, a corporation of Ohio. Original application Aug. 3, 1948, Serial No. 42,177, now Patent No. 2,556,961, dated June 12, 1951, Divided and this application March 26, 1951, Serial No. 217,580. 4 Claims. (Cl. 200—83.)



1. In a control apparatus, a housing comprising two oppositely disposed side walls; a control device actuating lever pivoted between said walls adjacent to one end of the housing and having a part extending toward the other end of the housing; an arm pivoted between said walls adjacent to said one end of the housing and having a part extending laterally of said extending part of said lever; a spring interconnecting said parts of said lever and arm to oppose movement of said lever in one direction, said walls having shoulders at said one end of said housing facing inwardly of said housing; a pressure responsive device comprising a plate and an expansible element on said plate, said plate abutting said shoulders to hold said element in engagement with said lever to urge said lever in one direction; a closure member attachable to said housing and extending between said walls, said closure member having a part extending over an edge of said plate to retain said plate in engagement with said shoulders; and means on said closure member to vary the position of said arm about its pivot and change the tension of said spring.

DESIGNS

171,528. WATER COOLER. James A. Canter, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application July 25, 1952, Serial No. 20,760. Term of patent 7 years. (Cl. D67—4.)



The ornamental design for a water cooler, as shown and described.

(To Be Continued)

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Lisee Manages Admiral Branch In Washington

CHICAGO—Leo F. Lisee has been appointed general manager of Admiral Distributors, Inc., Washington division, it was announced recently by Clarence S. Tay, general manager of branches for Admiral Corp.

Originally a regional manager for Admiral, operating out of Washington, Lisee became general sales manager a year ago of Mid-Atlantic Appliances, Inc., the company's distributor in the District of Columbia.

The newly-established Admiral branch is located at 2046 W. Virginia Ave., N.E.

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BOX 4577, AIR CONDITIONING & REFRIGERATION NEWS.

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MAN WITH eighteen years' experience installation and servicing all size commercial refrigeration and air conditioning. Also Chrysler Airtemp central station and wiring. Texas or states along Mississippi or east. Salary or hourly with 40 hour guarantee, 48 to 50 weeks a year. All tools and transportation. Sober, willing to travel. References. BOX 4572, Air Conditioning & Refrigeration News.

GRADUATE MECHANICAL engineer desires position in application or sales engineering with well-established air conditioning equipment manufacturer. 7½ years of varied engineering experience with manufacturer of refrigeration appliances. Write BOX 4579, Air Conditioning & Refrigeration News for complete resume.

POSITIONS AVAILABLE

DESIGN DRAFTSMAN—refrigerator and freezer cabinets required by old line company manufacturing for private label. This is board work on master layouts. Work is interesting with pleasant working conditions. Man selected will assume position of chief draftsman and must be familiar with small company operation, know how to make short cuts and keep job moving. Write to Fred G. Peck, chief engineer, RANNEY REFRIGERATOR COMPANY, Greenville, Michigan.

SALES MANAGER—Refrigeration air conditioning products for manufacturer automatic controls. Location, California. Please give us background, age and salary requirements. BOX 4558, Air Conditioning & Refrigeration News.

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MAKE MONEY with the most compact condensate water disposal unit for air conditioners, ice bins, drinking fountains. Only 9" high, 11" wide and 4½" thick; complete with check valve, float switch and tank. Will pump to a 12 foot head. List $50.00. Order from your jobber or write to KESCO PRODUCTS CORP., 134-34 230 St., Springfield Gardens 13, N. Y.

¾ AND 1 H.P. nationally-known compressors at sacrifice prices (manufacturer prohibits us from using name). All twin-cylinder bodies with flywheel and service valves—¾ H.P. only $42.00; 1 H.P., $47.00. (10% discount in lots of 6). Model SA6AL1 and SA6AM1, ¾ H.P. fan-cooled hermetic units, $34.00; model SA4AL1- ¼ H.P., $37.00. All equipment new and fully guaranteed. MANN REFRIGERATION SUPPLY Co., 440 Lafayette Street, New York City, or phone GRamercy 3-8000.

14—NEW 5 cubic foot chest freezers, self-contained, ¼ H.P. unit, crated. $100.00 ea. 6—New OF-9 glass front 54" freezers, with super structure, ½ H.P. self-contained unit. $325.00 ea. RED E COLD REFRIGERATOR CORP., 2347 S. Michigan Ave., Chicago, Illinois.

ATTENTION SERVICEMEN: Send for our refrigeration parts and supplies catalog. Save up to 50% on many items. Relays, V belts, T.X. valves, fittings, controls, driers. New—guaranteed merchandise. WALTER W. STARR REFRIGERATION, 2833 Lincoln Avenue, Chicago 13, Illinois.

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XUM

Refrigeration Problems

and their solution

by Paul Reed

For Service and Installation Engineers

Paul Reed

Spring Inspection (5)

With systems using water-cooled condensers, to check on the presence of air or other non-condensable gases in the system, the following is the procedure:

Attach an accurate high pressure gauge as outlined above for an air-cooled condenser. Then, with the machine off, open the water control valve so that water flows freely through the condenser.

Keep the machine off until the temperature of the outlet water is the same as that of the inlet water as read on an accurate thermometer. This indicates that the condenser is down to inlet water temperature. At this time the condenser should feel quite cool and the gauge should have gone down to a minimum reading.

As in the case of the air-cooled condenser, determine from the refrigerant tables the saturation temperature corresponding to the gauge pressure. This should be the same as the temperatures of the inlet and outlet water. If the saturation temperature corresponding to the gauge pressure is higher than the water temperature, the presence of air or other non-condensable gases in the condenser is indicated.

In the case of the air-cooled condenser, we have said that the saturation temperature of the refrigerant corresponding to head (gauge) pressure should be the same as the readings of the two thermometers. This is true in theory, but is somewhat too much to expect, and some allowance must be made for inaccuracy of the gauges and thermometers and in reading them, and for other inaccuracies.

If care is used, and the gauge and thermometers are accurate, the saturation temperature of the refrigerant as indicated by the gauge pressure should not be more than two degrees higher than the thermometer reading. In any case, it should not be more than five degrees. If it is more than five degrees, air or other non-condensables are indicated.

The same is true in the case of the water-cooled condenser. A variation of two degrees is permissable, but in no case should the saturation temperature of refrigerant, as indicated from gauge pressure, be more than five degrees greater than water t[illegible]peratures.

PURGING NON-CONDENSABLES

If the presence of air or non-condensables is indicated, they may be purged from the system. While system is still pumped down, and with the machine still off, loosen the head gauge and allow the air to purge slowly around the gauge connection. Large systems may have purge cocks or valves for this purpose.

After purging slowly for awhile, tighten the gauge and see if it reads a lower pressure. It probably will, even though there was no air present, for the purging has cooled the refrigerant and lowered the saturation pressure. Let it stand awhile and purge again. By repeating this a time or two, the condenser should be free of air.

Purge slowly. It is more effective in removing air. Moreover, in the case of the water-cooled condenser, rapid purging may reduce the temperature of the refrigerant in the condenser so fast that the water in the tubes of the condenser may become frozen and will burst, thus damaging and ruining the condenser, and flooding the system with water when the ice in the tubes thaws. This has happened in several cases to my knowledge; so be careful when purging water-cooled condensers.

This method of pump-down and purging should remove most of the air or other non-condensables ("foul" gases, as they are often referred to in ammonia practice).

However, they will not all be completely removed from the system. After the system is put back into operation, some of the non-condensables may collect in float chambers, accumulators, and in the condenser itself.

The pump-down and purge may be repeated, or if the float chambers, etc., are equipped with purge cocks, pl[illegible]gs, or other means of purging, they may be purged separately.

After the system has been tested for the presence of air or other non-condensable gases, and these have been purged if found present, the system may be put back into operation. Obviously, the gauge and thermometers should be removed and the water connections that may have been disturbed should be restored.

Also, the water valve should be readjusted to its previous setting or to whatever setting is most practical for economy of operation in view of the temperature and cost of available cooling water, the cost of electricity and required refrigeration capacity of the system.

(To Be Continued)

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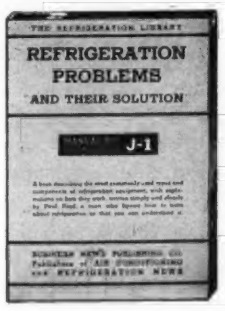

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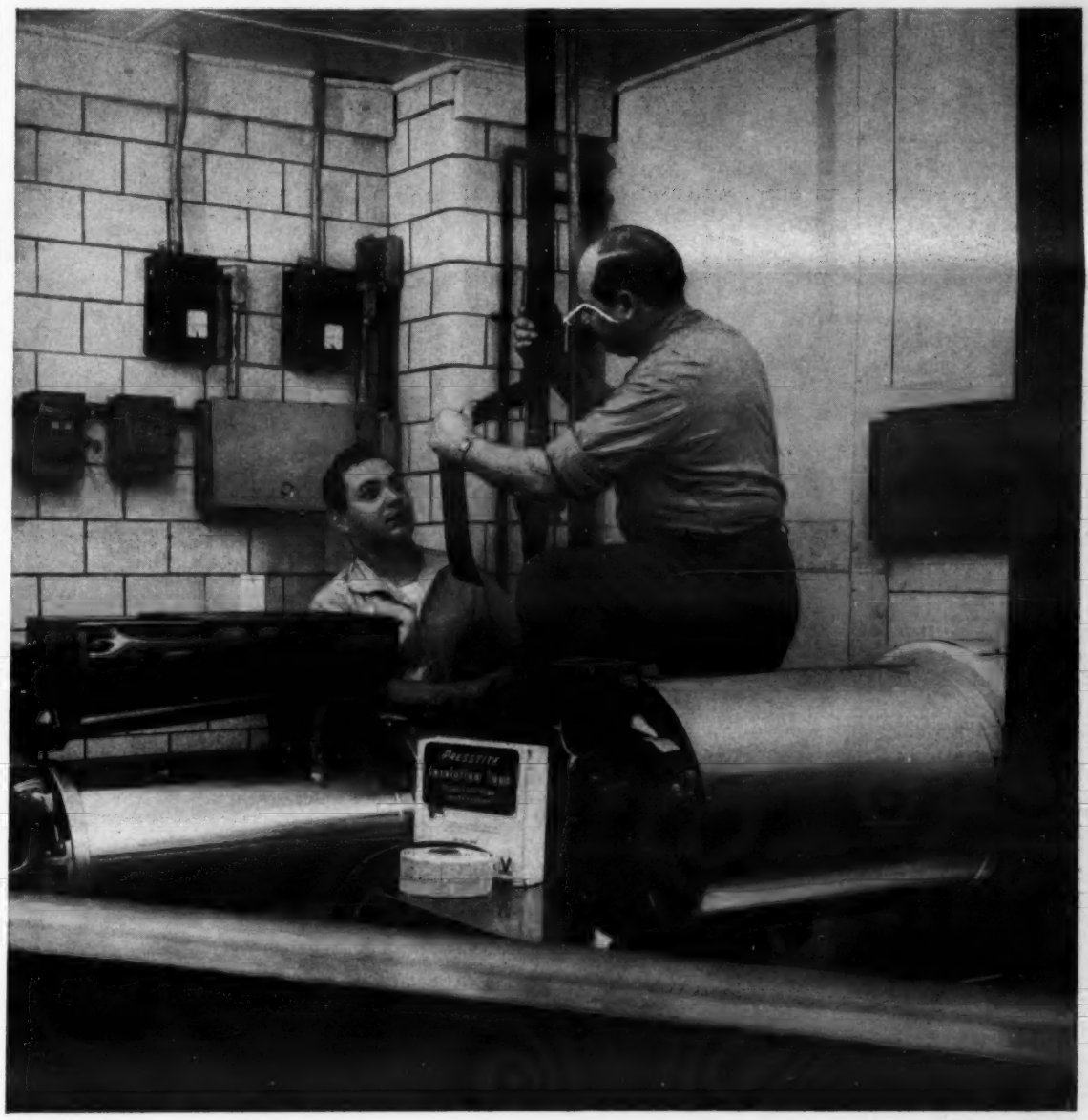

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Grand Rapids--

(Concluded from Page 1, Col. 3)

field.

"We feel this was the best solution to protect the public and not put a hardship on anyone and will do the air conditioning industry a world of good," he commented.

Porter also called attention to two sections of the city's electrical code. These require that single-phase motors of ½ hp. and over, serving window air conditioners and connected to single-phase feeders serving mixed loads, be on separate circuits.

The city ordinance "to regulate the sale and installation of window-type air conditioning units or systems operated by electric motors" states that no one may sell, rent, or lease any such unit or system operated by an electric motor of ½ or ¾ hp., which equipment is to be installed in the city, without first obtaining a permit from the city electrical inspector.

Also, the regulation prohibits the installation of such units or systems unless adequate wiring and approved outlets conforming to the city electrical ordinance are provided before installation, "providing, however, that should said unit or system be installed before adequate wiring and approved outlets can be installed, the cord supplying current to these units or systems shall be removed by the party installing the unit."

Two other sections of the ordinance state that the installation of window air conditioners shall be subject to the city's artificial refrigeration ordinance, and that an inspection and permit fee of $2 shall be paid for each permit.

One of the two sections of the city's electrical code noted by Porter states:

"All single-phase motors of ½ hp. when used to serve air conditioning units or systems designed for window installations and connected to single-phase feeders serving mixed loads, shall be on a separate branch circuit and not on circuits serving mixed loads. Where such units are within reach of a grounded object the units shall be grounded. If a receptacle is used it shall be of a polarized type and provided with grounding contact."

The other states, in part: "All single-phase motors of more than ½ hp. when serving air conditioning units or systems designed for window installation and connected to single-phase feeders serving mixed loads shall be on a separate 240-volt circuit. . . ."

St. Petersburg--

(Concluded from Page 1, Col. 4)

he said, "takes the entire safe electrical output of a 110-volt circuit. No other appliances should be put on this line."

The city started enforcing the ordinance last June. It has tried to convince homeowners and appliance dealers that the "relatively small additional cost" is a sound and excellent investment.

Installation of a new 110-volt circuit in a properly wired house will cost between $15 and $25, it was explained. A city electrical permit providing for an inspection of the installation will cost about $1.50 more. The city also requires a building department permit and another inspection, which will cost around $2.50. Thus, it was stated, the total cost is about $29.

Ice Cream Mfrs.--

(Concluded from Page 1, Col. 4)

ing to the complaints, these practices have a dangerous tendency unduly to hinder competition and create monopoly.

In their answers, the respondent companies deny the charging paragraphs of the complaint and contend that the complaints fail to state a cause of action under the Federal Trade Commission Act.

Weathertron Tackles New Jersey Market

ATLANTIC CITY, N. J.—The General Electric Co.'s Weathertron department announced that it is now marketing its Weathertron heat pump in New Jersey. Previously, most of the company's heat pump marketing activity was in the south and west.

Announcing the move in a talk at the Atlantic City Electric Co. here, Paul F. O'Neill, Weathertron department manager of utility contracts, said, "Public desire for summer cooling has now become nationwide and New Jersey is one of the states leading the trend to year-round air conditioning. We have been training personnel of our New Jersey distributor for several months and feel that the time is ripe to bring this newest type of year-round air conditioning into the state."

Although this will be the first entrance of the G-E department into New Jersey on a large commercial scale, its oldest installation is in that state. A heat pump installed in the town of Salem in 1932 when the company was developing the unit, is still providing heating and cooling today. General Electric began marketing the Weathertron in 1952.

C. P. Mohrfeld Inc., of Collingswood is the Weathertron Dept.'s first franchised distributor in New Jersey.

Indianapolis Speedway Hospital Cooled

FOR THE FIRST TIME in the history of the Indianapolis Speedway Memorial Day race, the hospital and first aid tent enjoyed air conditioning. Each year exhaustion and long exposure to track heat—which in 1953 was recorded at 132°—takes its toll among the 33 starting drivers. Of the spectators, estimated at 150,000 to 200,000 between 2,000 and 3,000 seek relief from heat exhaustion, fainting, heart attacks, and other minor afflictions. This year Chrysler Airtemp provided a truck-mounted mobile air conditioner that directed 2,500 cu. ft. per minute of cool, dry air to patients within the medical facilities. The unit delivers 40 tons of refrigeration. In addition, room air conditioners brought relief to occupants of the radio announcer's booth and the Dodge pace car headquarters during the long race.

NARGUS Meeting--

(Concluded from Page 1, Col. 3)

Chamber of Commerce of the United States.

Official opening of the exhibition of food, grocery products, and equipment is scheduled for 10 a.m. Sunday, June 13. On Monday and Wednesday, the exhibit hall will be open from 1 to 6 p.m. On Tuesday, it will remain open from 9 a.m. 'til noon, and on Thursday from 9 a.m. 'til 1:30 p.m.

The panel presentation on profitable meat department management will be held at 9:45 a.m. Monday. C. G. Bowes, director of NARGUS meat division, is moderator. Panel members are C. C. Auguston, C. & E. Grocery, Galesberg, Ill.; Paul Reitz, S. V. Corp., DuBois, Pa.; and Clarence A. Williams, Lukhard's Markets, Richmond, Va.

At 9:30 a.m., Wednesday, Lee S. Thomson, Jr., director of NARGUS produce division will moderate the panel presentation and demonstration on planning profitable produce operations. Panel members include Newman Bagley, Bagley's, Saco, Me.; B. M. Crippen, Crippen's Super-Valu, Houston, Texas; Alfred Cusolito, Richard's Lido Market, Newport Beach, Calif.; and L. E. Dyer, Dyer's Food Center, Topeka, Kan.

A registration fee of $15 per person for the convention includes luncheons, annual banquet, the President's Party, etc.

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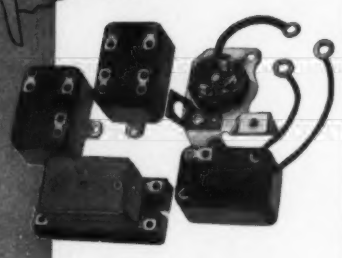

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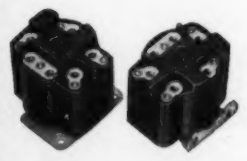

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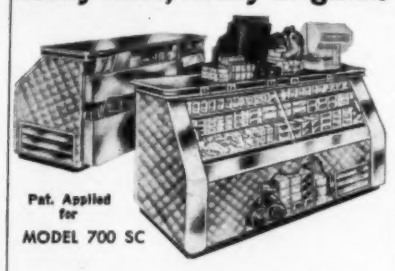

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